HVAC & IAQ CATALOGUE

TECHNICAL CATALOGUE 28

"The Edge of the World"

kenelec scientific

measuring up

Welcome to The Edge of The World, Arthur River. Here the gales of the Roaring Forties meet the rugged coastline at a place so awe-inspiring that early poet Brian Inder dubbed it "The Edge of the World". The sea west of Tasmania is the longest uninterrupted expanse of ocean on the globe. From Argentina the currents sweep unimpeded more than halfway around the planet until they hit this point. It is believed that the purest air can be found here. As penned by Brian Inder, "I cast my pebble onto the shore of Eternity…It has shape, form and substance".

There was a realisation that conserving places such as Arthur River is important for future generations and the need to understand the environment became more and more vital. Since Kenelec Scientific Pty Ltd's inauguration in 1962, it has grown in recognising how important it has become in providing solutions for environmental monitoring. Over time Kenelec Scientific has established itself as a solution provider for scientific instrumentation in areas of Occupational Health and Safety, Water Monitoring, Environmental Monitoring, Heating Ventilation Air Conditioning, Indoor Air Quality, Pharmaceutical and Cleanroom Systems.

The core values we maintain here are based on our slogan which is "Measuring Up". We measure up to the excellence that exceeds customers' expectations from the first contact to after sales support. Our aim is to build long term relationships and ultimately be a valuable ally for our customers. We pride ourselves in providing solutions which are underpinned by a Quality Management System that complies fully with ISO 9001:2008.

The Kenelec Scientific Team is made up of a very special group of people united to deliver only the best for our customers. We listen and we partner with our customers to produce the best solution tailored to their specific needs and preferences.

Some of our major international suppliers have been trading with us for many years in instrumentation that is world renowned, reliable and of impeccable quality. These suppliers are constantly re-inventing and improving their technology so that you, our customer, can enjoy the benefits of the latest instrumentation as you will see our latest catalogue attests to.

We are also capable of installing bespoke monitoring solutions where leading Pharmaceutical, Research and Medical institutions throughout Australia can testify to. Our skilled calibration engineers will assist in ensuring that you will enjoy continued reliability with minimum disruption to your businesses.

As you browse through our catalogue, you will find that our range of products is wide as is our vast experience. Please feel free to call us for further information or assistance. We look forward to hearing from you.

Anthony Busuttil
Managing Director

Elemental Collision
(Front Cover Image)

The Tarkine coast is wild remote and inspiring, it is also life giving. A place where the cleanest air on earth comes together with one of the world's oldest cultures, an ancient landscape of breathtaking raw beauty. A place where animal and plant life flourish despite the harshest of environments.

Photo by Dan Broun

kenelec scientific
measuring up

Solutions to challenges

Occupational Health & Safety Solutions

Water Monitoring Solutions

Environmental Monitoring Solutions

Pharmabilities & Cleanroom Solutions

Heating Ventilation Air-Conditioning & Indoor Air Quality Solutions

National Freecall No
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HVAC & IAQ CATALOGUE

VENTILATION TEST INSTRUMENTS 4

Hotwire Anemometers 4
Vane Anemometers 5
Digital Manometers & Pitot Tubes 8
Air Balancing Hoods 9
Duct Leakage Testers 12
Liquid Manometers 13
Relative Humidity & Temperature 14
Digital Photometers 15
Aerosol Generators 15

HEPA FILTER TESTING 15

INDOOR AIR QUALITY 16

CO2 & Multi-function IAQ Meters 16
Air Sampling - Pumps, Filter Cassettes & Sampling Media 20
Mould & Microbial Sampling 24

INDUSTRIAL TRANSMITTERS 26

Air Velocity Transducers 26
Relative Humidity and Temperature Transmitters / Data Loggers 26
CO2 Transmitters 28
Pressura Room Pressure Monitors 29
Refrigerant Transmitters 30
Industrial Gas Transmitters 31

MASS FLOW METERS (AIR & GAS) 33

Mass Flow Meters 33
Primary Calibrators 34

Please note: the prices in this catalogue are provided as a guide only and are subject to change without notice. Delivery cost and GST are not included.

NATA
ACCREDITED FOR TECHNICAL COMPETENCE

bsi. ISO 9001 Quality Management
FS 605267

HOTWIRE ANEMOMETERS

INDUSTRY STANDARD TSI HOTWIRE ANEMOMETER

- TSI is the world's largest and leading manufacturer of hotwire anemometers
- Both Alnor and Airflow brands are owned by TSI Incorporated with a wide range of instruments sold in Australia by Kenelec Scientific and our agent network
- Kenelec Scientific has exclusively represented TSI for over 40 years in Australia
- We have the only TSI equipped, authorized and certified, service and calibration facilities in Australasia to professionally calibrate and adjust TSI instruments. Having equipment properly calibrated, using Kenelec Scientific as an approved and certified vendor, can potentially protect your company in the event of disputes and litigation.
- TSI equipment is well known, respected and widely used by researchers, regulatory bodies, health authorities, councils, mining companies, the EPA, ventilation engineers, HVAC companies and countless other organizations worldwide.
- FREE lifetime support, FREE lifetime software updates, specialist advice, extended warranties, rental options, calibration services, special client discounts, education and training.
  These are just some of the structures that Kenelec Scientific has put in place to support the thousands of TSI customers throughout Australasia.

DO YOU PREFER THE AIRFLOW OR ALNOR BRAND?

Keep in mind that Airflow, Alnor and TSI are part of the same company. They have many parallel products that are exactly the same in function and price – they just have different branding! Kenelec will happily supply whichever brand you prefer.

TSI'S SOFTWARE PACKAGES

TSI LOGDAT

Provided FREE with most TSI 9 series and Airflow TA series thermal anemometers

TSI 9515 / AIRFLOW TA410 ENTRY LEVEL ANEMOMETER

$936

Parameter	Range	Accuracy
Air Velocity (direct)	0 to 20m/s	+ / - 3%
Air Velocity (via pitot)	-	-
Temperature	-18 to 93.3°C	+/- 0.3°C
Humidity	-	-
Dew Point	-	-
Wet Bulb	-	-
Differential Pressure	-	-
Static Pressure	-	-
Barometric Pressure	-	-
Volumetric Air Flow	-	-
Heat Flow	-	-

General Features

- Slow and fast response rate
- Menu driven display
- Complete with rugged, high impact case and accessories
- Fully calibrated with a 2 year warranty

TSI 9535 / AIRFLOW TA430 MULTI-MODE ANEMOMETER

$1,448

Parameter	Range	Accuracy
Air Velocity (direct)	0 to 30m/s	+ / - 3%
Air Velocity (via pitot)	-	-
Temperature	-18 to 93.3°C	+/- 0.3°C
Humidity	-	-
Dew Point	-	-
Wet Bulb	-	-
Differential Pressure	-	-
Static Pressure	-	-
Barometric Pressure	-	-
Volumetric Air Flow	Calculated	N/A
Heat Flow	-	-

General Features

- 12,700 point **manual** data logging with Windows based software included
- Standard model comes with a straight probe
- Statistics & variable time constant
- Auto save & on screen data review
- Fully calibrated with a 2 year warranty

Options

■ **TSI9535A** $1,682

- Includes Articulated Probe

TSI 9545 / AIRFLOW TA440 MULTI-MODE ANEMOMETER

$1,938

Parameter	Range	Accuracy
Air Velocity (direct)	0 to 30m/s	+ / - 3%
Air Velocity (via pitot)	-	-
Temperature	-10 to 60°C	+/- 0.3°C
Humidity	0 to 95%	+ / - 3%
Dew Point	Calculated	N/A
Wet Bulb	Calculated	N/A
Differential Pressure	-	-
Static Pressure	-	-
Barometric Pressure	-	-
Volumetric Air Flow	Calculated	N/A
Heat Flow	-	-

General Features

- 12,700 point **auto save & manual** data logging with Windows based software included
- Standard model comes with a straight probe
- Auto save & on screen data review
- Statistics & variable time constant
- Fully calibrated with a 2 year warranty

Options

■ **TSI9545A** $2,172

- Includes Articulated Probe

VANE ANEMOMETERS

WHY BUY FROM KENELEC SCIENTIFIC?

Why use generic brands or old uncalibrated instruments when you can use what the industry professionals use?

- We are the largest supplier of quality vane anemometers in Australasia
- We are accredited in the calibration of vane anemometers
- Both NATA calibration options are available
- All equipment is fully serviced and supported in Australia
- Full calibration adjustments are made, not just verifications like other labs
- TSI's vane anemometers have been used worldwide as industry standard measurement tools for over 30 years
- Kenelec Scientific is Australia's exclusive importer of TSI products & only authorized service centre
- FREE Lifetime technical support and software updates

DO YOU HAVE A VANE ANEMOMETER DUE FOR CALIBRATION?

Here is your opportunity to have your TSI instrument NATA calibrated

- 3 ranges to choose from
- NATA Calibration Certificate

$300

NATA
ACCREDITED FOR TECHNICAL COMPETENCE

TSI 5725 / AIRFLOW LCA501 PRECISION VANE ANEMOMETER

RENT ME

$1,221

The VelociCalc® 5725 is a high performance, yet simple to use, rotating vane anemometer. High accuracy and reliability make the VelociCalc 5725 the professional's ideal tool for measuring unevenly distributed or fluctuating flows through heating and cooling coils, grilles, and filters.

It accurately measures air velocity and temperature, calculates flow rate, performs averaging, and can determine minimum and maximum readings. Using sweep mode, you can quickly provide one averaged reading of velocity or volume over a large measurement area. The large vane head automatically averages and dampens velocity and volume readings. The VelociCalc 5725 includes variable time constant, sampling and statistics functions and data logging capability.

General Features

- Reversible 4 in. (100 mm) head to read supply and exhaust flows
- Calculates volumetric flow rate when user inputs duct shape and size, or area
- Sampling function records multiple point measurements
- Automatic averaging of air velocity
- Simultaneously displays velocity and temperature
- Sweep mode for one overall measurement
- Optional 36in. telescopic arm available
- Compatible with optional Aircone flow hoods
- Logs 12,700+ samples with a time and date stamp
- Recall, review, store data
- LogDat2™ downloading software included
- Supplied with NIST traceable calibration certificate

Accessories

■ **AIRFLOW LCA301 VANE ANEMOMETER** $797

- 0.25 to 30m/s air velocity range
- 0 to 60°C temperature range
- Volumetric air flows, sweep mode, 100mm head
- Air cone flow hood kit compatible
- Includes soft carry bag and accessories
- Includes calibration certificate & 2 year warranty

■ **TSI 801749 AIR CONE KIT**

■ **TSI 801748 TELESCOPIC EXTENSION ARM**

■ **4M PROBE EXTENSION CABLE**

■ **TSI 801749 AIR CONE KIT** $351

- Includes a 285 x 234mm rectangular cone
- Includes a 180mm diameter round cone
- Works with any 100mm vane anemometer
- Rugged and reliable, easy to transport
- Ideal for toilet fans and small outlets
- Excludes the meter shown above

■ **TSI 801748 TELESCOPIC EXTENSION ARM** $219

- Extends out 1m allowing the vane head to sit around 1m plus over your head
- Great for reaching high, hard to get at places
- Compatible with TSI & Airflow brand vane anemometers
- Rugged and reliable, easy to use

■ **4M PROBE EXTENSION CABLE** $120

- The 4m extension cable is compatible with most TSI and Airflow vane models
- The vane head can be screwed off and fitted on any longer (self-made) pole with the 4m cable then connecting the vane head back to the instrument

TSI 9565 / AIRFLOW TA465 ADVANCED ANEMOMETER

RENT ME

Bluetooth™

MULTIPLE APPLICATION
- Ventilation
- Indoor Air Quality

$3,277

TSI 9565 model includes the 964 probes

Parameter	Range	Accuracy
Air Velocity (direct)	0 to 50m/s	±3%
Air Velocity (via pitot)	1.27 to 78m/s	±1.5%
Temperature	-18 to 93.3°C	±0.3°C
Humidity	0 to 95 %	±3%
Dew Point	Calculated	N/A
Wet Bulb	Calculated	N/A
Differential Pressure	±3735 Pa	±1Pa
Static Pressure	±28mm Hg	±1%
Barometric Pressure	517 to 930mm Hg	±2%
Volumetric Air Flow	Calculated	-
Heat Flow	Calculated	-

General Features

- Interchangeable probes
- Compatible with all pitot tubes on the market
- 26,500 point advanced data logging (manual & automatic) with USB cable and software
- Toggle between actual and standard velocity
- Advanced menu driven multi-mode display
- Bluetooth bidirectional communications
- Remote polling from a PC
- Includes Model 964 probe for Velocity, Temp & Humidity

Options

■ **TSI 9565A** $3,525
- Includes Articulated Probe 966 for Velocity, Temp & Humidity

■ **TSI 9565P** $1,989
- No Probe supplied, just the unit

CARBON MONOXIDE

Carbon monoxide, also known as CO, is called the “Invisible Killer” because it’s a colourless, odourless, poisonous gas. More than 150 people in the Unites States die every year from accidental non-fire related CO poisoning associated with consumer products, including generators. Other products include faulty, improperly-used or incorrectly-vented fuel-burning appliances such as furnaces, stoves, water heaters and fireplaces.

Source: United States Consumer Product Safety Commission

VOC

Volatile organic compounds are chemicals used to manufacture and maintain building materials, interior furnishing, cleaning products and personal care products. “Volatile” means that these chemicals evaporate or can easily get into the air at room temperature. “Organic” means these chemicals are carbon based.

The term “chemical emissions” refers to VOCs as they evaporate into the air from products.

Studies by the U.S. Environmental Protection Agency (U.S.EPA) and other researchers have found that VOCs are common in indoor environments and that their levels may be two to a thousand times higher than outdoors. There may be anywhere from 50 to hundreds of individual VOCs in the indoor air at any one time. Some may produce objectionable odours at very low levels, but many have no noticeable smell. Many VOCs are irritants and can cause headaches, eye, nose and throat irritation and dizziness. Long-term exposure to certain VOCs may lead to chronic diseases or cancer. At high concentrations, some VOCs are toxic.

Source: Greenguard Certification from UL Environment

INDOOR AIR QUALITY PROBES

FROM $2,516

Options

■ MODEL 980 $2,516
- Temp Humidity CO2
- 0.5°C temperature accuracy
- 0 to 5000ppm CO2 range
- 0 to 60°C temperature range
- Dew point & wet bulb measurements
- 5 to 95% humidity range, +/- 3% accuracy

■ MODEL 982 RENT ME $2,984
- CO2 & CO Temperature Humidity
- 0 to 500ppm CO range
- 0 to 5000ppm CO2 range
- 0 to 60°C temperature range
- Dew point & wet bulb measurements
- 5 to 95% humidity range, +/- 3% accuracy

PRECISION VOC PROBES

FROM $3,496

Options

■ MODEL 984 $4,659
- 10 to 20,000 ppb range
- Resolution 10ppb, 0.1°C
- -10 to 60°C temperature range
- Temperature accuracy +/- 0.5°C

■ MODEL 985 $3,496
- 1 to 2,000 ppm range
- Resolution 10ppm, 0.1°C
- -10 to 60°C temperature range
- Temperature accuracy +/- 0.5°C

IAQ & VOC PROBES

FROM $4,900

Options

■ MODEL 986 RENT ME $5,471
- VOC’s - 10 to 20,000 ppb range
- RH - 5 to 95% range
- Temperature -10 to 60°C
- CO2 - 0 to 5,000ppm range

■ MODEL 987 $4,900
- 1 to 2,000 ppm range
- RH - 5 to 95% range
- Temperature -10 to 60°C
- CO2 - 0 to 5,000ppm range

800187 AIR FLOW PROBE

$563

General Features
- 1.27 to 78.7 m/s range
- Stainless steel construction
- Can be used in harsh environments
- Resolution 0.001m/s
- Up to 800° C temperature

MODEL 995 100MM VANE HEAD

RENT ME

$856

General Features
- 0.25 to 30m/s velocity range
- 0 to 60°C temperature range
- Removable handle
- Can be mounted on a pole

TEMPERATURE PROBES

$219

General Features
- -40 to 650°C temperature range
- Accuracy ± 0.056% of reading
- Rugged design
- Easy to plug-in and use
- 0.1°C resolution, 15cm long

Options

■ MODEL 792 SURFACE PROBE $219

■ MODEL 794 AIR PROBE $219

UNIVERSAL HOTWIRE PROBES

FROM $1,017

Options

■ MODEL 960 RENT ME $1,017
- 0.015m/s accuracy, 0.01m/s resolution
- -18 to 93.3°C temperature range
- 0.3°C temperature accuracy
- 0 to 50m/s air velocity range
- Air volume measurements

■ MODEL 962 $1,258
- 0.015m/s accuracy, 0.01m/s resolution
- -18 to 93.3°C temperature range
- 0.3°C temperature accuracy
- Articulated probe
- 0 to 50m/s air velocity range
- Air volume measurements

■ MODEL 964 RENT ME $1,331
- -10 to 60°C temperature range
- 5 to 95% humidity range, +/- 3% accuracy
- Dew point & wet bulb measurements
- 0 to 50m/s air velocity range
- Air volume measurements

■ MODEL 966 $1,565
- -10 to 60°C temperature range
- 5 to 95% humidity range, +/- 3% accuracy
- Dew point & wet bulb measurements
- Articulated Probe
- 0 to 50m/s air velocity range
- Air volume measurements

DIGITAL MANOMETERS & PITOT TUBES

BUY FROM KENELEC SCIENTIFIC...

- Australia's largest range of professional, quality units
- Solutions available from world renowned TSI and Airflow Instruments
- Industry standard solutions for industry professionals
- Low cost, inclined and vertical tube manometers
- Base models through to advanced multifunction instruments
- Measure a wide variety of parameters accurately and with confidence
- Calculate air velocity inm/s and air volume in l/s inside ducts
- Australia's exclusive importer of TSI products & only authorized service centre
- The ideal calibration devices for checking room pressure differentials
- Compatible with all brands, makes and models of Pitot tubes
- All instruments include professional calibration certificates
- Fully serviced, supported, calibrated & adjusted in Australia as required
- Full calibration adjustments are made, not just verifications

TSI 5815 / AIRFLOW PVM610 DIGITAL MICRO MANOMETER

$812

General Features

- -3735 to + 3735 Pa differential pressure range
- Measures static and differential pressures
- Calculates air velocity through a Pitot tube
- Menu driven display with space age design
- High impact rugged case, easy to use
- Full 2 year warranty with FREE lifetime support

TSI 5825 / AIRFLOW PVM620 DIGITAL MICRO MANOMETER

$1,251

General Features

- -3735 to + 3735 Pa differential pressure range
- Measures static and differential pressures
- Calculates air velocity & air volume in l/s
- 10,700 point data logging with software
- Variable time constant & sample statistics
- Actual and standard velocity, 2 year warranty

TSI 8715 ADVANCED / AIRFLOW PH730 MULTIFUNCTION MANOMETER

Bluetooth™ $2,618

General Features

- -3735 to + 3735 Pa differential pressure range
- 26,500 point data logging with software
- TSI air flow hood & velocity matrix compatible
- Optional plug-in environmental probes available
- Bluetooth communications, menu driven display
- Auto zero and many other advanced features

TSI STANDARD PITOT TUBE

FROM $219

General Features

- Ideal for use with precision manometers
- Long lasting 304 stainless steel construction
- Silver soldered connections
- Fully meets AMCA & ASHRAE specifications
- No correction factors or calibration required
- Insertion depth markings on the side
- Coefficient of "1"

Options

■ 12 INCH / 30CM	$219
■ 18 INCH / 46CM	$241
■ 24 INCH / 61CM	$263
■ 36 INCH / 91CM	$307
■ 48 INCH / 122CM	$320
■ 60 INCH / 152CM	$351

We also sell S Type and other ranges of pitot tubes

TSI TELESCOPING PITOT TUBE

$453

General Features

- Extends out from 8 to 38 inches
- Ideal for use with precision manometers
- Long lasting 304 stainless steel construction
- 1/8 inch diameter
- Fully meets AMCA & ASHRAE specifications
- Moulded hand grip
- Fully portable, easy to use

AIR BALANCING HOODS

TSI 6200 LOW FLOW BALOMETER

FROM $2,311

General Features

- 4.7 to 236 l/s flow rate
- K factor input capabilities
- 10 hour battery life with continuous use
- Operates on 4 x C size batteries (with nicad battery option)
- ± 3% accuracy with 1.0 cfm display resolution
- Simulated analogue display shows air trends & digital readings
- Use with or without a hood
- Weighs only 6.5 lb with 610 x 610mm hood attached
- 2 year warranty
- Fully calibrated, serviced and supported by Kenelec Scientific

Options

- **TSI 6200** $2,348
  - 406 x 406mm & 200mm tall fabric hood
- **TSI 6200D** $2,333
  - 610 x 610mm & 457mm tall fabric hood
- **TSI 6200E** $2,311
  - No Hood
- **TSI 6200F** $2,333
  - 406 x 406mm & 457mm tall fabric hood

Accessories

The Alnor series of Low Flow air capture hoods is the ideal way to measure very low volumetric flows. Confidently and accurately measure supply or return flows from 4.7 to 236 l/s.

This lightweight series of units is ideal for either residential or light commercial use. Each unit includes batteries, a carrying case, NIST traceable calibration certificate, user manual and two year warranty.

- **406 X 406MM FRAME & FABRIC HOOD KIT, 200MM TALL** $358
- **406 X 406MM FRAME & FABRIC HOOD KIT, 457MM TALL** $358
- **610 X 610MM FRAME & FABRIC HOOD KIT** $358
- **650 X 650MM FRAME & FABRIC HOOD KIT** $358

AIR BALANCING HOODS

THE ULTIMATE INDUSTRY STANDARD HOOD FOR AIR BALANCING PROFESSIONALS

TSI 8380 / AIRFLOW PH731 MULTI-FUNCTION AIR BALANCING HOOD

Detachable manometer **±3735 Pa** measurement range

RENT ME

Bluetooth™

$4,630

Parameter	Range
Air Velocity	0.125 to 78 m/s velocity through pitot tube range with ± 2% accuracy
Air Volume	11 to 1180 l/s measurements
Temperature	-10 to 60°C temperature measurements (requires 800220 probe)
Humidity	0 to 95% RH range, ±3% accuracy (requires 800220 probe)
Dew Point	Calculates dew point (requires 800220 probe)
Wet Bulb	Calculates wet bulb (requires 800220 probe)
Differential Pressure	+/- 3735 Pascal differential pressure measurements
Static Pressure	Static pressure measurements
Barometric Pressure	Barometric pressure measurements
Data Logging	26,500 point data logging with software provided

General Features

Whether you are upgrading from an earlier TSI model or buying a hood for first time, the TSI 8380 ACCUBALANCE is the ULTIMATE hood for the air balancing professional. Reliable, accurate and packed full of features far beyond other hoods on the market the 8380 is quite simply the most advanced hood of its type.

The 8380 is a state-of-the-art multi-purpose electronic air balancing hood for reading air volume flow at diffusers and grilles. It is ideally suited for commissioning agents, facility Managers, health & safety specialists, test engineers and test and balance professionals. This ultra lightweight, ergonomically designed kit saves time and money while helping to create a healthy and energy efficient environment.

Every TSI 8380 / Airflow PH731 comes with a 610 x 610mm standard hood and frame kit, the manometer (meter), a luggage style wheeled transit case, 18" pitot tube, 2 static tubes, 4.8m tubing, Swirl X Conditioner, PC interface cable, software, neck straps, batteries, battery holders, NIST traceable calibration certificate, manuals and a full 2 year warranty.

- Detachable manometer, can be used on or off the hood for other measurements
- Effectively 2 instruments for the price of one (manometer & hood in one)
- Advanced temperature & back pressure compensation
- Includes the latest SWIRL X flow conditioner for twist or swirl diffuser work
- Bluetooth bi-directional communications & Bluetooth printing, 30m range
- USB interface, data downloading and full remote polling for real-time data collection
- New built-in heat flow, turbulence and duct traverse capabilities
- Multi-language capability
- Multimode data logging
- Backlit LCD display
- K-factor adjustments
- Auto density correction
- Precision auto zeroing
- 610 x 610mm hood included, others optional
- Ergonomic design and ultra lightweight for easy one person operation
- Detachable digital manometer for use in other applications with pitot, air flow, temperature, velocity matrix, humidity & other probes
- Temperature & back pressure compensated
- Multiple hood sizes & accessories available
- Optional smartphone Android application
- 11 to 1180 l/s measurement range with ±3% of reading accuracy
- 0.125 to 25m/s range through external air flow probe
- 0.125 to 12.5m/s range through external velocity matrix with ±3% of reading accuracy
- 356 to 1016 mm Hg absolute pressure range
- Measures differential pressure ±3735 Pa with 2% of reading accuracy
- 4.4 to 60°C internal temperature sensor range
- Can be used with any pitot or static tubes
- Full statistics, minimum, maximum & average
- Full 2 year warranty with FREE lifetime support
- FREE Lifetime software updates
- Calibrated in Australia by Kenelec Scientific

Note: Optional plug in probes may be required to make certain measurements on the TSI 8380 and PH731 model hoods.

ONE PERSON OPERATION PACKAGE

Purchase the 8380-STA bundle which includes the following

- 8380 AccuBalance Capture Hood
- Capture Hood Stand
- Samsung 7" Tablet with 8GB, Wi-Fi and loaded with LogDat™ Mobile App and Instruction Videos

$5,237
excl. Delivery Fee + GST

Options

- **TSI 801090 16 POINT VELOCITY MATRIX** $570
  - 0.125 to 12.5 m/s flow range
  - Includes telescopic handle and 8 feet of tubing
- **TSI 800187 AIR FLOW PROBE (18" STRAIGHT PITOT PROBE)** $563
  - 0.125 to 25 m/s measurement range
  - Includes 2 x 2.4m hoses
- **TSI 800220 TEMPERATURE & HUMIDITY PROBE** $527
  - -10 to 60ºC & 5 to 95% humidity
  - 0.3ºC temperature accuracy, +/- 3% RH accuracy

Accessories (Thermo Anemometer Probes)

- **TSI 960 AIR VELOCITY & TEMP PROBE** $1,017
- **TSI 962 AIR VELOCITY & TEMP PROBE (ARTICULATED)** $1,258
- **TSI 964 AIR VELOCITY, TEMP & HUMIDITY PROBE** $1,331
- **TSI 966 AIR VELOCITY, TEMP & HUMIDITY PROBE (ARTICULATED)** $1,565

Accessories (Additional Hood Options)

- **TSI 801200 305 X 1220MM HOOD & FRAME KIT** $512
- **TSI 801202 305 X 1525MM HOOD & FRAME KIT** $512
- **TSI 801201 610 X 1220MM HOOD & FRAME KIT** $512
- **TSI 801203 915 X 915MM HOOD & FRAME KIT** $512
- **TSI 801209 406 X 406MM HOOD & FRAME KIT** $446
- **TSI 801210 133 X 1220MM HOOD & FRAME KIT** $592
- **TSI 801211 710 X 710MM HOOD & FRAME KIT** $592
- **TSI 801212 710 X 1270MM HOOD & FRAME KIT** $768
- **TSI 801204 200MM BIO HOOD KIT** $688
- **TSI 801205 250MM BIO HOOD KIT** $688
- **TSI 801206 2 HOOD PACKAGE 1' X 4' & 2' X 4' HOOD & FRAME KIT** $731
- **TSI 801207 2 HOOD PACKAGE 1' X 5' & 3' X 3' HOOD & FRAME KIT** $731

Accessories (Misc)

- **TSI 8930 PORTABLE BLUETOOTH PRINTER** $829

DUCT LEAKAGE TESTERS

TSI PAN341 DUCT ACCREDITATION SYSTEM

DUCT LEAKAGE TESTING

POSITIVE AND NEGATIVE DUCT ACCREDITATION (PANDA) SYSTEM (MODEL PAN341)

AS PER AS4254
DUCT LEAKAGE TESTING
IS NOW REQUIRED FOR SYSTEMS OVER 3000 L/S

$14,306

Specifications	
Range	-3735 Pa to +3,735 Pa
Resolution	0.1 Pa
Accuracy	1% of the reading
Duct static range	+/- 2,500 Pa
Volume Measurement (using TA465P)	
Wilson radial flow grid	10 to 200 l/s
15mm conical inlet Nozzle adapter	1-13 l/s low leak range
Resolution	0.01 l/s
Accuracy	2.5% of the reading
Voltage	240 Vac
Current	10 Amps
Dimensions	1130 x 660 x 600mm
Carry Weight	45Kg
Total Weight	55kg

General Features

The PANDA system provides contractors, commissioning engineers, and research and development technicians with the best in class choice of test equipment to quantify air leakage in ductwork and other areas as well as the ability to measure the performance of ducted systems.

The PANDA provides a fast, accurate, automated solution and helps to ensure compliance with EN12237, EN1507, EUROVENT 2/2 and SMACNA standards, enhancing energy savings in buildings.

The Airflow positive and negative duct accreditation (PANDA) system PAN341 series provides contractors, commissioning engineers, and research and development technicians with the best in class choice of test equipment to quantify air leakage in ductwork and other areas as well as the ability to measure the performance of ducted systems. The PANDA provides a fast, accurate, automated solution and helps to ensure compliance with EN12237, EN1507 and EUROVENT 2/2 standards, enhancing energy savings in buildings.

- Positive & negative leakage testing in one rig
- Energy savings by testing & minimizing duct leaks
- Accuracy is ± 2.5% of volume flow
- Fan speed control for charging up of duct system to test static pressure within minutes
- Fits in the back of vans and station wagons
- Includes an Airflow TA465-P multi-function instrument and PVM620 micro manometer
- Automatically calculates leakage rate in real time
- Simultaneously displays flow leakage rate and static pressure
- Provides a pass/fail indication for a given tightness class
- Automatically corrects actual volume flow leakage rate to standard temperature and pressure (STP)
- Monitors barometric pressure and temperature in real time
- Stores data that can be downloaded for report generation and documentation
- Works with optional Model 8934 portable printer
- Compliant with the following standards:
  - **EN12237**
  - **EN1507**
  - **EUROVENT**
  - **SMACNA**

LIQUID MANOMETERS

WHY SO MANY COMPANIES CHOOSE TSI LIQUID MANOMETERS

- Wide 2,068 kPa pressure range so they can be used for all sorts of HVAC applications including heating and cooling systems, pumps, chillers, fan coils and much more. Don't limit yourself by buying instruments that only cover a limited pressure range.
- They do it all in the one instrument. No need to bolt on extra adapters and parts. The HM600 series is ready to start taking measurements immediately
- They can be easily used with every brand, make and model of valve on the market. Simply enter your flow curve for Stad valves and off you go
- The HM600 series are the most reliable, stable and proven meters we have come across to date, as reported by client after client for many years.
- They can quickly and reliably be zeroed unlike some competitive instruments
- They are easy to use, simply turn them on for trusted, reliable, repeatable results
- Simultaneously display differential, high side and low side pressures without having to change hose connections or instrument valve settings
- Easy to read backlit display. Operates on standard or rechargeable AA batteries
- Easily calculates flow using manufacturers Cv (Kv) factors (HM685 model)
- Calculates heat flow, impeller diameter, brake power and much more (HM685 model)
- Can't be damaged as easily by over pressuring the unit unlike lower pressure units on the market
- Used extensively worldwide
- Made in the USA and includes a full 2 Year warranty

TSI HM685 PRECISION LIQUID MANOMETER

NEW Quick editing Cv/Kv factor directly from the Flow Measurement screen

RENT ME

WIDE PRESSURE RANGE
±2,068 kPa

$5,551

Specifications	
Pressure	
Differential pressure range	±2,068 kPa ±300 PSI
Gauge pressure range	-138 to 2068 kPa -20 to 300 PSI
Resolution	0.001PSI, 0.01 kPa
Accuracy	±1% of reading
Temperature	
Temp. probe	Included
Temp. range	-40 to 121°C
Resolution	0.1°C
Accuracy	0.3°C
General	
Data logging	4000 points
Data logging interval	1 to 3600sec
Windows-based software	Included
Time constant	1, 5, 10, 20 & 30 secs
Statistics (min, max, avg)	Yes
Cv (Kv) factor storage	Yes (100)
PC interface	USB
Weight	1.2kg
Power	4 x AA batteries
Flow	
Range	0 to 631l/s
Calculates volumetric flows	Yes
Heat flow calculations	Yes

General Features

- Includes a HM685 liquid manometer
- Hard carry case
- 2 x (2m x 6mm) hoses with shut off valves
- 2 x B&G readout probes
- 2 x P/T gauge adapter probes
- Power cord
- Manual
- Temperature probe
- CompuDat Windows based software and USB interface cable
- NIST traceable calibration certificate and a 2 year warranty

Probes

■ **TSI HMFIT ACCESSORY KIT** $320
- Includes 34 additional fittings and two ITT Bell and Gossett readout probes

■ **TSI REPLACEMENT GAUGE PROBES** $80
- Includes P/T Gauge adapter probes, package of 2 probes

■ **TSI REPLACEMENT READOUT PROBES** $146
- Bell and Gosset read-out probes, package of 2 probes

■ **TSI REPLACEMENT HOSE KIT** $219
- Hose kit with 1 red hose and 1 blue hose

■ **TSI TEMPERATURE PROBE** $388
- A 6" long probe for measuring temperature

■ **TSI PROBE EXTENSION CABLE** $139
- Includes a 1.8m probe extension cable

RELATIVE HUMIDITY & TEMPERATURE

THE EASY-TO-USE HM40 SERIES, COMPACT AND PORTABLE HUMIDITY METERS

The easy-to-use HM40 Series is a compact and portable humidity meter that provides reliable measurements in a wide range of applications. It is the ideal spot-checking tool for everything from structural moisture measurement and air conditioning systems to humidity measurement in industrial production processes and life science applications. There are four different models available: HM41, HM42, HM45, and HM46.

HM41 COMPACT AND PORTABLE HUMIDITY & TEMPERATURE METER

General Features

- Humidity measurement accuracy (including non-linearity, hysteresis, and repeatability):
  - at 0 to +40 °C ±1.5 %RH (0 to 90 %RH)
  - ±2.5 %RH (90 to 100 %RH)
  - at -10 to 0 °C ±3.0 %RH (0 to 90 %RH)
  - +40 to +60 °C ±4.0 %RH (90 to 100 %RH)
- Temperature measurement range: -10 to +60 °C
- Measurement probe interchangeable HMP113 probe
- Probe material PC/ABS plastic blend (white)
- Housing classification IP54

$575

HM42 HUMIDITY AND TEMPERATURE METER FOR TIGHT SPACES

General Features

- Non-linearity, hysteresis, and repeatability:
  - at 0 to +40 °C ±1.5 %RH (0 to 90 %RH)
  - ±2.5 %RH (90 to 100 %RH)
  - at -40 to 0 °C ±3.0 %RH (0 to 90 %RH)
  - +40 to +80 °C ±4.0 %RH (90 to100 %RH) at +80 to+100 °C ±4.0 %RH*
- Probe head temperature measurement range -40 to +100 °C Measurement probe HM42PROBE
- Probe head material stainless steel housing classification IP40 (probe), IP54 (indicator) Not recommended for Td > 85 °C
- 4mm thin probe with membrane filter

$1,259

HM45 HUMIDITY AND TEMPERATURE METER WITH REMOTE PROBE HUMIDITY MEASUREMENT

General Features

- Humidity measurement accuracy (including non-linearity, hysteresis, and repeatability):
  - at 0 to +40 °C ±1.5 %RH (0 to 90 %RH)
  - ±2.5 %RH (90 to 100 %RH)
  - at -40 to 0 °C ±3.0 %RH (0 to 90 %RH)
  - +40 to +60 °C ±4.0 %RH (90 to 100 %RH)
- Probe temperature
  - Measurement range -40 to +60 °C
  - Measurement probe interchangeable HMP113 with HM40HANDLE
- Probe material PC/ABS plastic blend (white) Housing classification IP54

$699

HM46 HUMIDITY AND TEMPERATURE METER FOR MECHANICAL DURABILITY AND EXTRA REACH

General Features

- Humidity measurement accuracy (including non-linearity, hysteresis, and repeatability):
  - at 0 to +40 °C ±1.5 %RH (0 to 90 %RH)
  - ±2.5 %RH (90 to 100 %RH)
  - at -40 to 0 °C ±3.0 %RH (0 to 90 %RH)
  - +40 to +80 °C ±4.0 %RH (90 to 100 %RH)
  - at +80 to+100 °C ±4.0 %RH*
- Probe head temperature measurement range
  - -40 to +100 °C (short term up to 180 °C)
- Measurement probe HM46PROBE Probe head material Stainless steel, brass filter Housing classification IP40 (probe), IP54 (indicator) Not recommended for Td > 85° C

$1,150

HM70 HAND-HELD HUMIDITY AND TEMPERATURE METER (INCLUDES HMP75 RH+T PROBE)

FROM $1638

The Vaisala HUMICAPR Hand-Held Humidity and Temperature Meter HM70 is designed for demanding humidity measurements in spotchecking applications. It is also ideal for field checking and calibration of Vaisala's fixed humidity instruments.

The HM70 incorporates the latest generation of the Vaisala HUMICAPR Sensor. It is reliable and has better than ever long-term stability. Additionally, it has a sensor that copes well with chemical interference and provides accuracy that lasts in demanding conditions.

The chemical purge option maintains measurement accuracy in environments with high concentrations of chemicals. The Sensor preheat option reduces measurement delays as it keeps the sensor dry when the probeis inserted into hot and humid processes.

General Features

- Multilingual user interface
- Shows measurement trends graphically
- Proven Vaisala HUMICAP® Sensor technology
- 3 probe alternatives, temperature measurement ranges between -70 and+180 °C
- Multi probe operation; dewpoint and CO2 probes can also be connected
- 2 probes can be connected simultaneously
- Displays various humidity parameters
- Sensor preheat and chemical purge options for demanding conditions
- NIST traceable calibration certificate included

DIGITAL PHOTOMETERS

PH4 TEC SELF-CONTAINED CABINET / PH5 TEC RACK OR DESKTOP VERSION

■ **PH4 TEC SELF-CONTAINED CABINET**

■ **PH5 TEC RACK OR DESKTOP VER.**

$14,403

TEC services provide the most highly advance aerosol photometer available today.

Both PH-4 and PH-5 utilizes a high resolution graphics display for easy reading. The extremely simple menu-driven software system utilizes command prompts to inform the user of each setup process. The powerful microprocessor provides control of numerous functions that are not available on any other aerosol photometer. The plug and play probe is lightweight and features remote control alarm options (includes a visual, audible and NEW INNOVATIVE VIBRATING alarm). Other features include robust built housing and metal connector, a detachable shoulder strap and cabinet storage for the probe (PH4) or upcoming feature for PH5 includes electronic calibration report storage.

General Features

- Case: Black Aluminium w/ comb. lock

Options

■ **PH4 TEC** **$14,403**

- Size: 13" L x 18" W x 6.5" H
- Weight: 20 lbs. (9.1 kg)
- Power: 100-250 VAC 50/60 Hz
- Power Consumption: .92Amps @120V / .46Amps @ 240 V
- Minimum Display Reading: .0001%
- Maximum Display Reading: 999%
- Sample Flow Rate: 1 CFM (28.3 SLPM)

■ **PH5 TEC** **$14,403**

- Size: 13.5" L x 10" W x 6" H
- Weight: 18 lbs. (8.2 kg)
- Power: 100-250 VAC 50/60 Hz
- Power Consumption: .92Amps @120V / .46Amps @ 240 V
- Minimum Display Reading: .0001%
- Maximum Display Reading: 1000%
- Sample Flow Rate: 1 CFM (28.3 SLPM)

Accessories

■ **PROBE EXTENSION 11 FOOT LENGTH** **$335**

■ **SPARE PARTS KIT**

AEROSOL GENERATORS

AG-E1 / AG-E2 (ELECTRIC)

■ **AG-E1**

■ **AG-E2**

FROM $5,075

The AG-E1 and AG E2 Laskin Nozzle aerosol generators are completely self-contained product (no external compressor needed).

The AG-E1 generator utilizes one and a half Laskin nozzles, which provides 10ug/l of aerosol when introduced into 2025 cfm (57.34m3/min) of airflow. This aerosol concentration is ideal for testing of biological safety cabinets or for testing of air filtration systems with air volumes less than 2025 cfm (57.34m3/min).

The AG-E2 generator utilizes one quarter Laskin nozzles, which provides 10ug/l of aerosol when introduced into 338 cfm of airflow. This aerosol concentration is ideal for testing of product isolators, animal racks or testing of filtration systems with air volumes less than 338 cfm (9.57 m3/min).

Options

■ **AG-E1** **$6,598**

- Case: Black Aluminum w/ Handle
- Size: 16" L x 12" W x 11" H
- Weight: 36 lbs. (16.4 kg)
- Power: 115 VAC 60 Hz or 220VAC 50 Hz
- Reagent: PAO or equivalent
- Testing Range: 203 – 2,025 CFM (5.74 to 57.34 m3/min)
- Aerosol Generation: 1.5 Laskin nozzles
- Aerosol Output @ 203cfm: 100 ug/l
- Aerosol Output @ 2025cfm: 10 ug/l
- Capacity 0.5 to 0.75 gallons

■ **AG-E2** **$5,075**

- Case: Black Aluminum w/ Handle
- Size: 13" L x 9.5" W x 8" H
- Weight: 23 lbs. (10.5 kg)
- Power: 115 VAC 60 Hz or 220VAC 50 Hz
- Reagent: PAO or equivalent
- Testing Range: 33 – 338 CFM (0.93 to 9.57 m3/min)
- Aerosol Generation: 0.25 Laskin nozzle (Utilizes one jet of a 4 hole nozzle)
- Aerosol Output @ 33.8cfm: 100 ug/l
- Aerosol Output @ 338cfm: 10 ug/l
- Capacity: 0.25 to 0.50 gallons

AG-A1 (PNEUMATIC)

$4,365

The AG-A1 Laskin Nozzle aerosol generator is designed especially for testing of biological safety cabinets and filter systems.

The AG-A1 generator utilizes 4 Laskin nozzles, which provides 10ug/l of aerosol when introduced into 5400 cfm (152.9 m3/min) of airflow. This aerosol concentration is ideal for testing of HEPA and ULPA filtration systems with air volumes up to 5400 cfm (152.9 m3/min).

General Features

- Case: Black Aluminum w/ Handle
- Size: 14" L x 10" W x 9" H
- Weight: 16.5 lbs (7.5 kg)
- Compressed Air: 5.5 to 11 cfm @ 20 psi
- Reagent: PAO or equivalent
- Testing Range: 540 - 5,400 CFM (15.29 to 152.9 m3/min)
- Aerosol Generation: 2 or 4 Laskin nozzles
- Aerosol Output @ 540 cfm: 100 ug/l
- Aerosol Output @ 5400 cfm: 10 ug/l
- Capacity: 0.75 to 1 gallon

CO2 & MULTI-FUNCTION IAQ METERS

Providing a comfortable, safe and healthy indoor environment is an increasingly important concern. Good indoor air quality increases concentration and productivity which can reduce lost days due to absence. A good indicator of proper ventilation is the level of CO2 present in a space. Carbon dioxide is a normal by-product of occupant respiration. Elevated levels of CO2 may indicate that additional dilution ventilation is required.

TSI 7575 PLUG AND PLAY MULTIFUNCTION IAQ MONITOR

TSI 7575
PLUG AND PLAY MODEL
CHOOSE THE PROBES THAT SUIT YOU

RENT ME

FROM $1,732

General Features

- One instrument with multiple plug-in probe options including VOCs and air velocity
- Simultaneously measures CO_2, CO, temperature and humidity with 982 probe
- Displays up to 5 measurements
- On-screen messages and instructions
- Store up to 39 days of data collected at one-minute log intervals
- TrakPro™ Data Analysis Software provided for data logging, analysis and documenting results
- Bluetooth communications for transferring data or remote polling keypad lockout to prevent tampering during unattended use

Options

- **7575 MULTI FUNCTION METER** $4,732
  - Including 982 Probe
- **7575-X MULTI-FUNCTION** $1,732
  - IAQ meter only, no plug-in probes

Probes

- **980 IAQ PROBE** $2,516
  - CO_2, temperature, humidity
- **982 IAQ PROBE** $2,984
  - CO_2, temperature, humidity, CO
- **960 AIR VELOCITY PROBE** $1,017
  - Velocity, temperature
- **962 AIR VELOCITY PROBE** $1,258
  - Velocity, temperature (articulated)
- **964 AIR VELOCITY PROBE** $1,331
  - Velocity temperature, humidity
- **966 AIR VELOCITY PROBE** $1,565
  - Velocity, temperature, humidity (articulated)
- **984 VOC PROBE** $4,659
  - 10-20000 PPB, temperature
- **985 VOC PROBE** $3,496
  - 1-2000 PPM, temperature
- **986 IAQ PROBE** $5,471
  - VOC 10-20000 PPB, CO_2, temperature, humidity
- **987 IAQ PROBE** $4,900
  - VOC 1-2000 PPM, CO_2, temperature, humidity
- **995 ROTATING VANE PROBE** $856
  - 100 mm, velocity, temperature
- **792 SURFACE TEMPERATURE PROBE** $219
- **794 AIR TEMPERATURE PROBE** $219
- **800681 IAQ PROBE STAND** $73

MEASURING PERCENT OUTDOOR AIR

Percent outdoor air is the % of the total volume of delivered air that is outdoor air. There is more than one way to measure %OA. One method is to use a tracer gas like SF6. Perhaps a better option is to take three readings of CO2 concentration and calculate the %OA. The three reading locations include outdoor air, supply air, and return air. Another option is to take temperature readings at those same three locations. Using the following equation, %OA can then be established.

%OA = (Xr – Xs)/(Xr-Xo) x 100%

Where:

Xr = Return air CO2 concentration OR temperature

Xs = Supply air CO2 concentration OR temperature

Xs = Outdoor air CO2 concentration OR temperature

When to Use CO2 or Temperature to Calculate % Outdoor Air

Percent outdoor air can be calculated using either CO2 or using temperature. Generally, CO2 should be used when the building that you are interested in has a lot of occupants. This ensures that the CO2 concentration values of outdoor air and return air are far apart. The further these two values are apart, the more accurate the %OA value will be. If there are few or no occupants, then there is little accumulation of CO2 and the accuracy will not be as good.

Similarly, temperature should be used when the building or room of interest has a big difference in temperature from outdoor air temperatures. This means when it is hot or when it is cold outdoors, then it is a good time to use temperature as a means to calculate %OA. To take a temperature calculated %OA value, take the measurements at the Air Handling Unit. The reason the measurements need to be taken at the air handling unit is because there are often heating or cooling coils in the ducts or near the diffusers in some buildings which would adversely affect the readings and it is difficult to verify if they are present or not.

TSI 7515/7525/7545 IAQ-CALC METERS

FROM $907

TSI IAQ-Calc™ Meters are outstanding instruments for investigating and monitoring indoor air quality (IAQ). Handheld, easy to use allowing you to gather your data and work with ease.

General Features

- Conduct IAQ evaluations
- Determine thermal comfort
- Examine building IAQ conditions to optimize worker productivity
- Comply with regulations and guidelines
- Model 7515 is a cost-effective meter for carbon dioxide (CO2) measurements.
- Models 7525 and 7545 simultaneously measure and data log multiple parameters. Model 7525 measures CO2, temperature, humidity, and calculates dew point, wet bulb temperature, and percentage outside air.
- Model 7545 adds detection of carbon monoxide (CO)

Options

■ **TSI 7515** **$907**
- CO_2 & statistics display

■ **TSI 7525** **$2,831**
- CO_2, temp, humidity, data logging

■ **TSI 7545** **$3,240**
- CO_2, temp, humidity, CO, data logging

	7515	7525	7545
CO_2	✓	✓	✓
CO			✓
Temperature		✓	✓
Humidity		✓	✓
Percentage outside air		✓	✓
Dew point		✓	✓
Wet bulb temperature		✓	✓
Data logging/downloading		✓	✓
Statistics	✓	✓	✓
Review data		✓	✓
Certificate of Calibration	✓	✓	✓

✓ **Available** **Unavailable**

GM70 HAND-HELD CARBON DIOXIDE METER

FROM $1,966

The Vaisala CARBOCAP® Hand-Held Carbon Dioxide Meter GM70 is a user-friendly meter for demanding spot measurements in laboratories, greenhouses and mushroom farms. The meter can also be used in HVAC and industrial applications, and as a tool for checking fixed CO2 instruments. The GM70 has a short warm-up time and is ready for use almost immediately. It has a menu-based interface, a graphical LCD display and data logging capability. The optional MI70 Link Windows® software in combination with a USB connection cable provides an easy way to handle data in a PC environment.

General Features

- Proven Vaisala CARBOCAP® reliability
- Two optional sampling methods: diffusion or pump aspiration
- User-friendly meter with multilingual user interface
- Numerical and graphical display of measurements
- Data can be logged and transferred to PC via MI70 Link software
- Wide selection of measurement ranges
- Easy recalibration using the interchangeable probes
- Suitable for field checking of fixed CO2 instruments
- Short warm-up time
- Compact and versatile

DUST & DPM MONITORS

DUSTTRAK AEROSOL MASS CONCENTRATION MEASUREMENT

DustTrak: Real-Time, Laser based monitors for OHS professionals. The DustTrak measures aerosol contaminants such as dust, smoke, fumes and mists, giving you real-time aerosol mass readings. You can measure PM1, PM2.5, PM4 & PM10 one at a time or simultaneously depending on the model.

TSI 8534 DUSTTRAK PORTABLE DUST MONITOR

RENT ME

Measures PM fractions simultaneously

General Features

- 100nm to 15µm particle size range
- 1ug/m3 to 150mg/m3 dust concentration range
- 3600mA rechargeable lithium ion battery
- 66,000 point data logging & software
- Measures all PM fractions (simultaneous)
- Large VGA colour graphical display
- 2 year warranty

$13,936

TSI 8532 DUSTTRAK II PORTABLE DUST MONITOR

RENT ME

Measures PM fractions one at a time

General Features

- 100nm to 10µm particle size range
- 1ug/m3 to 150mg/m3 dust concentration range
- 3600mA rechargeable lithium ion battery
- 66,000 point data logging & software
- Large VGA colour graphical display
- 2 year warranty

$8,204

REAL TIME AEROSOL MONITORING

TSI AM510 SIDEPAK PERSONAL AEROSOL MONITOR

RENT ME

FROM **$6,312**

With sampling pumps, you simply don't get that dynamic real-time data that you can get with a TSI real-time AM510 monitor. The SIDEPAK AM510 series are rugged, lightweight, belt-mounted laser photometers. The built-in sampling pump lets you attach a wide variety of size-selective inlet conditioners for worker breathing zone or area measurements with a respirable cyclone or one of the three integrated impactors. The easy-to-read display shows your data in both real-time aerosol mass concentration and 8-hour time-weighted average (TWA), with datalogging enabling you to download stats to produce graphs and reports.

General Features

- 0.1µm to 10µm particle size range
- 1 ug/m3 to 20 mg/m3 concentration range
- 33,000 point data logging with software
- Ideal for indoor air, environmental & OH&S work
- Built-in pump, battery operated, ready to use

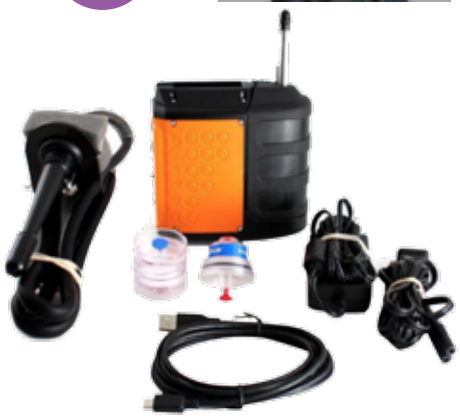
Options

■ AA BATTERY MODEL	$6,312
■ 1650mAh BATTERY MODEL	$6,472
■ 2700mAh BATTERY MODEL	$6,625

REAL-TIME DPM MONITORING

FLIR AIRTEC REAL-TIME DPM ELEMENTAL CARBON MONITOR

RENT ME



$8,991

The Airtec monitor is a compact and highly portable real-time elemental carbon monitor designed to determine exposure of workers in underground mines to DPM. Airtec uses a real time particle capture and light transmission method to yield elemental carbon values which closely correlate with NIOSH 5040 test results to measure EC and TC levels. This monitor is designed to allow the operator and management to take immediate, remedial action to address a problem area. Levels can also be tracked over time to determine the possibility of long term health hazards and help eliminate the risks associated with over-exposure. During monitoring the Airtec uses consumables, generally a cassette will last a 12 hour shift with a change of pre-filter cartridge for every three cassettes used.

General Features

- Displays elemental carbon levels in true real-time (no sending filter samples off to labs)
- Laboratory accuracy in a small portable clip on device
- Developed at the NIOSH research laboratories in Pittsburgh, USA
- Precisely replicates results according to the NIOSH 5040 method.
- Specifically detects DPM via EC measurements
- No cross sensitivity to other dusts and aerosols
- No more waiting days for results, saves time and money
- Battery or AC powered for personal or fixed monitoring
- 66.6 day data logging with software provided and FREE updates
- Easy to change sample / analysis filter

Options

■ WITH 4-20MA OUTPUT	$9,637

Consumables

■ AIRTEC CONSUMABLE KIT	$323

- Contains 3 cassettes & 1 prefilter cartridge

PARTICLE COUNTERS - CLEANROOM AND ULTRAFINE

For life science and electronic clean room applications, TSI particle counters are best in class. TSI instruments meet strict industry standards and are calibrated to match widely recognized standards for particle measurements. TSI offers portable and handheld particle counters for classifying clean rooms.

Particle counters are regularly used to monitor occupational environments. Airborne particle counters help observers in office settings determine indoor air quality for personal health and building hygiene purposes.

Particle counters are used for an array of indoor air quality and industrial hygiene related tasks, such as locating sources of particle emissions and aerosol transport pathways. Particle counters also are used for assessing filter efficiency in HVAC systems and measuring particle size distributions and raw particle counts.

TSI 9306 PORTABLE PARTICLE COUNTER

FROM $6,312

General Features

- 0.3µm to 25µm particle size range
- 2.8 lpm flow rate with built-in pump
- 10,000 point data logging with software included
- USB & Ethernet interfaces, HEPA filtered output
- Colour LCD display, 6 hour lithium ion battery
- 2 year warranty

Options

■ **TSI 9306-03** $6,312
- 6 Fixed size channels with the channels set at 0.3µm, 0.3µm, 0.5µm, 7µm, 1.0µm, 2.0µm & 5.0µm

■ **TSI 9306-04** $6,312
- 6 Fixed size channels with the channels set at 0.3µm, 0.5µm, 1.0µm, 3.0µm, 5.0µm & 10µm

■ **TSI 9306-V2** RENT ME $6,429
- 6 user selectable size channels from 0.3µm to 10µm

TSI 8525 P-TRAK REAL-TIME ULTRAFINE PARTICLE COUNTER

$8,861

General Features

- 20 nm to 1µm wide particle size range
- Ideal for indoor air quality and OH&S applications
- Terrific in detecting combustible aerosol sources
- Sample Flow Rate - 100 cm3/min
- Concentration Range - 0 to 5 x 10^5 particles/cm3
- Audible and visual particle detection alerts
- Fully serviced and supported in Australia
- 2 year warranty

TSI 3007 ULTRA-FINE PARTICLE COUNTER

$13,636

General Features

- 10nm to 1µm wide particle size range
- Ideal for indoor air and OH&S work
- Menu driven, easy to use
- USB interface, data logging and software
- Audible and visual particle detection alerts
- Packed full of other features

These particle counters are calibrated with NIST traceable PSL spheres using TSI's world-class Classifier and Condensation Particle Counters, the recognized standard for particle measurements. Backed with a standard two-year warranty and TSI's long-standing reputation for high quality, there are no other handheld particle counters like it on the market today.

AIR SAMPLING - PUMPS, FILTER CASSETTES & SAMPLING MEDIA

GRAVIMETRIC ANALYSIS - AIR SAMPLING PUMPS

ESCORT LC AIR SAMPLING PUMP

$1,011

The Escort LC Air Sampling Pump can be used with a variety of personal and area sampling devices to collect such airborne contaminants as asbestos fibers, toxic gases, vapors, particulates, fumes and mists. It can also be used to sample silica dust, coal dust and organic vapors.

General Features

- Watertight case for occasional water spray
- Inlet filter traps particulate matter
- Separate LEDs indicate pump operation and low battery
- Stainless steel-filled plastic case provides EMI/RFI protection
- Exceptionally quiet operation
- Includes sampling line and charger
- 2 year warranty

Accessories

■ LEATHER CASE	$100

ESCORT ELF AIR SAMPLING PUMP

FROM $1,397

Escort ELF air sampling pumps feature a state of the art electronic laminar flow sensor to provide a constant flow control with ± 2.5% regulation of flow rate (from 1-3 lpm) with automatic compensation for changes in battery voltage, temperature, altitude, and sample load. An internal secondary standard calibrates the pump continuously and needs to be checked against a primary standard only once per month (or every 200 hours for coal mine dust sampling).

General Features

- Patented electronic laminar flow control
- Internal secondary standard calibrates the pump continuously, maintaining OSHA compliance
- Check against a primary standard only once a month or every 200 hours for coal mine dust sampling
- Inlet filter traps moisture and particular matter
- Rated IP66 for resistance to water and dust ingress
- Exceptionally quiet operation
- Flow-fault Indicator shows any sample inlet blockage
- Run/hold feature allows “time out” during sampling process
- Elapsed time readout and low-battery warning
- Low flow and dual tube sampling available with Gemini Twin-Port Sampler
- 2 year warranty

Options

■ STANDARD	$1,397
■ WITH SAMPLING LINE AND CHARGER	$1,551
■ WITH GEMINI SAMPLER	$1,891

Accessories

■ LEATHER CASE	$100

AIR SAMPLING - PUMPS, FILTER CASSETTES & SAMPLING MEDIA

HOW DO I PROPERLY CALIBRATE MY PUMP?

When sampling using filter cassettes, the accuracy of your sample collection depends on an accurate amount of air passing through the filter. Filter cassettes create a high amount of backpressure in the sampling 'train'. So to calibrate the pump airflow properly the sampling 'train' must be in a certain order. Airflow must pass though the calibrator first, then through the media, and finally through the pump. By configuring your calibration setup this way, you are measuring the flow rate of air as it enters the filter.

TSI 4146 PRIMARY CALIBRATOR KIT

$1,717

The TSI Primary Calibrators are portable, battery-operated units that are lightweight, easy to use and accurate within 2% of reading. Volumetric flow rate is displayed continuously so adjustments to pump flow can be made in real-time. The LCD display is easy to read.

General Features

- Range: 0.01-20LPM
- Accuracy: within 2%
- Battery powered, compact and lightweight
- NIST traceable calibration certificate

Options

■ **TSI4046** $2,091
- Flow rate of 2.5 to 300LPM

ZEFON DIGICAL 30 CALIBRATOR

$1,615

A primary calibration device, the DigiCal™ Calibrator provides instantaneous calibration for instruments like the Zefon Escort LC Pump or the secondary flow standard inside the Escort ELF Sampling Pumps. Just press the plunger and the DigiCal Calibrator does the work. Its unique flow cell replaces conventional bubble tubes and makes calibration easier. The Digi-Cal Calibrator achieves extreme accuracy by utilizing a computerized flow meter that provides instantaneous flow readouts on a digital display.

General Features

- Flow rate: 0.1 to 30LPM

ACCESSORIES FOR SAMPLE PUMPS

ZEFON HEAVY DUTY 10MM DORR-OLIVER CYCLONE – FOR MINING PART# 10044015

$379

Designed to fit all standard 37mm Industrial Hygiene (IH) cassettes the cyclone and holder are designed to orient the cyclone in the proper position for sampling and are fixed with a strong, spiked collar clip so they won't come off under even strenuous work.

ZEFON 10MM STATIC CONDUCTIVE NYLON CYCLONE WITH HOLDER PART# ZA0081

$133

This static conductive replica of the 10mm "Dorr-Oliver" Nylon Cyclone eliminates any possible bias in sampling results from static charging.

ZEFON INHALABLE DUST SAMPLER WITH CONDUCTIVE PLASTIC CASSETTE

FROM $144

A reusable filter cassette with a sampling head designed to measure the worker's exposure to inhalable particulates and respirable dust. When sampling at the recommended flow rate of 2 LPM, it collects a particle size distribution that includes particles of 100 micron and smaller. This meets the definition set forth by ACGIH AND BRITISH METHOD MDHS 14/3 for inhalable particulate.

Options

■ **PLASTIC PART# ZA0300** $144

■ **STAINLESS STEEL PART# ZA0303** $267

ZEFON ALUMINUM CYCLONE FOR RESPIRABLE DUST WITH HOLDER PART# ZA0062

$154

This Zefon cyclone is a replica of the SKC Aluminum Cyclone and is ideal for silica and crystalline.

ZEFON UNIVERSAL CASSETTE AND CYCLONE HOLDER - PART# ZA0061

$49

The Zefon Universal Cassette and Cyclone Holder allows cassettes and cyclones to be attached onto a workers collar. Compatible with 37mm cassettes, 25mm cassettes, and aluminum cyclones manufactured by both Zefon and SKC.

Cyclones are designed to separate respirable dust particles from non-respirable particles and allow the respirable particles to be collected on a filter cassette.

PREASSEMBLED AIR SAMPLING FILTER CASSETTES

Zefon offers a complete line of 37mm air sampling cassettes manufactured to meet all applicable NIOSH, OSHA, and EPA standards. All 37mm cassette housings are manufactured in-house from polystyrene or polypropylene and are available in two or three piece configurations. All 37mm cassettes are individually assembled and preloaded under stringent quality assurance standards with only the finest quality membrane and support pads.

PRELOADED AIR SAMPLING CASSETTES

FROM $69
(50 PER BOX)

General Features

- Supported filter types – MCE, PVC, Polycarbonate, Glass Fibre, PTFE (with PP support), PTFE (Zefluor) with PTFE support, PTFE (pure, unsupported) and Quartz
- 25mm and 37mm diameter
- 2-piece Sytrene, 3-piece Styrene and Conductive Polypropylene

Configurations available to conform with most NIOSH standards that require filter cassettes.

ENDOTOXIN-FREE CASSETTES

FROM $154

Zefon Sterile Endotoxin-Free Cassettes are specially manufactured to ensure there ist no background interference when sampling endotoxins.

General Features

- 0.45µm Polycarbonate filter
- 37mm Styrene housing
- Sterilized by irradiation
- Endotoxin free

Options

■ PS7345PCEFB CASSETTE $154
- 37mm 3pc 0.4µ,10/box

■ PS7345PCEFC CASSETTE $748
- 37mm 3pc 0.4µ, 50/box

STERILE 37MM FILTER CASSETTES

FROM $184
(50 PER BOX)

Zefon sterile filter cassettes are suitable for a wide range of microbiological sampling and analysis including fungi collection, water supply testing and beverage monitoring.

General Features

- 37mm 3pc stryrene housing
- Sterilized by gamma radiation
- MCE Filters in 0.8 or 0.45 micron pore size
- Polycarbonate Filters in 0.2 or 0.4 micron pore size

Options

■ W/ MCE FILTERS FROM $184

■ W/ POLYCARB. FILTERS FROM $215

GRAVIMETRIC PRE-WEIGHED CASSETTES

Zefon pre-weighed cassettes eliminate the inconvenience of pre-weighing filters by providing the filter weight on each cassette prior to sampling.

General Features

- 2 or 3 piece housing
- Preloaded, ready to use
- Each cassette labelled with serial number
- Colour coded to indicate filter type
- 5 Decimal weight accuracy (.00001g)
- Use of Pure Homopolymer PVC filters provide excellent weight stability
- PVC filters specially designed with no silica and low ash properties

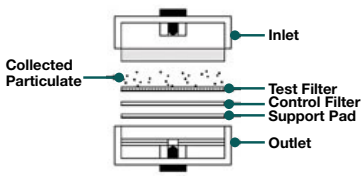
Options (Gravimetric Matched)

■ 7P52P CASSETTE $287
- 37mm, 2 pc, 5.0um, PVC

■ 7P53P CASSETTE $287
- 37mm, 3 pc, 5.0um PVC

GRAVIMETRIC MATCH-WEIGHED CASSETTES

FROM $325
(50 PER BOX)



Zefon match-weighed cassettes eliminate the need to weigh filters before sampling by providing two filters which are matched in weight. The top filter collects particulate and the bottom filter serves as a control. After sampling, both filters are weighed and the difference in weight equals the amount of contaminate collected.

Note: The use of match-weighed cassettes overcome the environmental conditions issue as both filters are exposed to the same environmental conditions. Therefore, after sampling, the measured weight difference is solely the amount of contaminate collected.

General Features

- 2 or 3 piece housing
- Versions available with MCE (0.8um pore size) and PVC (5.0um pore size) filters
- Labels with serial numbers provided
- Colour coded indicating filter type & pore size
- Preloaded - ready to use
- Leak free design

Options (Gravimetric Matched)

■ 5M92M CASSETTE $401
- 25mm, 2 pc, 0.8um, MCE

■ 7M52P CASSETTE $370
- 37mm, 2 pc, 5.0um, PVC

■ 7M53P CASSETTE $370
- 37mm, 3 pc, 5.0um, PVC

■ 7M92M CASSETTE $325
- 37mm, 2 pc, 0.8um, MCE

■ 7M93M CASSETTE $325
- 37mm, 3 pc. 0.8um, MCE

Environmental conditions can have a significant effect on filter weight readings. When using Zefon pre-weighed cassettes, it is important that the post sample weighing is performed under the same environmental conditions used at the Zefon factory. Those conditions are set at a temperature of 68° F (± 1.0°F) and a rel. humidity of 50% (± 1%).

AIR SAMPLING - PUMPS, FILTER CASSETTES & SAMPLING MEDIA

UNASSEMBLED AIR SAMPLING FILTER CASSETTES

Similar to the preloaded cassettes, Zefon also supply a full range of unassembled cassettes. This includes cassette housings, membrane filters and filter support pads. All components are manufactured in-house to meet stringent quality standards.

CASSETTE HOUSINGS

Clear Styrene

Opaque Styrene

Asbestos Style

FROM $41

All unassembled cassette housings feature a leak free design and are manufactured in-house to the same stringent quality standards that are applied to pre-assembled cassettes.

General Features

- Leak free design
- Available in 25mm and 37mm sizes
- Available in 2-piece, 3-piece and 4-piece configurations
- Asbestos style (cone outlet) cassette housing also available
- Supplied in packs of 50
- Ideal for commercial laboratories that use high volume of cassettes

Options

■ CLEAR STYRENE

- The most common material, a crystal clear styrene that provide excellent visibility inside the cassette housing

■ OPAQUE STYRENE

- Manufactured of the same styrene the clear one is, except it is an opaque brown colour to prevent transmission of light into the cassette

■ POLYPROPYLENE (SOLVENT RESISTANT)

- A natural polypropylene with a cloudy looking colour. Material is resistant to a wide range of chemicals

■ CONDUCTIVE BLACK POLYPROPYLENE

- Manufactured using a polypropylene that is carbon filled making it static conductive when grounded properly.

MEMBRANE FILTERS

MCE Filter

PVC Filter

Silver Filter

PCTE Filter

PTFE Filter

Glass Fibre

FROM $35

A full range of membrane filters is available from Zefon. These are manufactured in-house to the same stringent quality standards that are applied to pre-assembled cassettes.

General Features

- Available in MCE, PVC, PCTE, Silver, PTFE and Glass Fibre materials
- Pore sizes from 0.2um to 5.0um
- Available in 25mm, 37mm and 47mm sizes
- Majority supplied in packs of 100

Options

■ MCE MEMBRANE FILTERS

- Mixed Cellulose Ester (MCE) Filter Membrane Discs are manufactured from a mixture of cellulose acetate and cellulose nitrate. MCE membrane filters are one of the most widely used filters in both air monitoring and analytical applications.

■ PVC MEMBRANE FILTERS

- Polyvinyl Chloride (PVC) Membrane Filters (GLA-5000) are excellent membrane filters for sampling airborne metals, silica, and dust. Comprised of inherently low ash pure homopolymer PVC, these filters are particularly suited to provided interference-free silica determinations. Low moisture pick-up and low tare weight assure gravimetric stability.

■ POLYCARBONATE MEMBRANE FILTERS

- Polycarbonate track-etch (PCTE) membrane filters are manufactured from polycarbonate films. They feature a smooth flat surface, exhibit well-controlled pore size and shape, and have very low levels of extractables. Naturally hydrophobic

■ SILVER MEMBRANE FILTERS

- Silver Metal Filter Membranes are pure metallic silver (99.97% pure silver) and are available with particle retention ratings of 0.45 or 0.8 microns. Silver metal membranes are used in a variety of filtration applications, and their ability to withstand extreme chemical and thermal stress makes them ideal for applications involving aggressive fluids and/or high temperatures

■ PTFE MEMBRANE FILTERS

- PTFE membrane filters provide excellent chemical resistance and are suitable for use in the most aggressive sampling environments

■ GLASS FIBRE FILTERS

- Zefon glass microfiber filters are produced from 100% borosilicate glass microfiber without the use of binders or strengthening agents. The fibers used to manufacture these depth filters are smooth and uniform. This permits their characteristically high flow rates while allowing retention of exceptionally small particles and high load capacity. These characteristics are particularly important in applications involving high concentrations of particulate

FILTER SUPPORTS PADS

FROM $25

Zefon manufacture a range of filter support pads. These filter supports are used behind filter membranes to support them from collapsing while still allowing free air flow through them.

General Features

- Available in cellulose, porous plastic and stainless steel grids
- Available in 25mm and 37mm sizes, stainless steel grid also available in 47mm size
- Supplied in packs of 100, stainless steel filter supports are sold as individual units

Options

■ CELLULOSE

- Cellulose pads are made up of 100% pure cellulose and the most common support used in filter cassettes.

■ POROUS PLASTIC

- Porous plastic supports work well when sampling chemicals that are not compatible with cellulose.

■ STAINLESS STEEL GRIDS

- Stainless steel grids can be used in a wide range of filter holders and can easily be cleaned and re-used.

MOULD & MICROBIAL SAMPLING

BIO PUMP SAMPLING

ZEFON BIO PUMP PLUS

FROM $1,132

Ideal for indoor air quality sampling, mould spores, bio aerosols, pollen, fibres and inorganic particulates.

The Zefon Bio-Pump® Plus is the smallest and lightest portable battery powered IAQ sampling pump available. It provides the simplest and most convenient way to sample with Air-O-Cell® and Via-Cell® cassettes at a flow rate of 15LPM.

General Features

- Extra long battery life - Take over 100 samples on a single charge
- Programmable timer allows unattended operation
- Quick-charge battery charger included (approx 3 hours)
- Nothing to prepare or clean. Just place the cassette on the pump, set the time and go
- Each pump comes complete with both an Air-O-Cell® and Via-Cell® flow indicator, quick charger, 10 free Air-O-Cell® cassettes and a handy carrying case

Options

- **ZBP-200** $1,132
  - Bio Pump Plus with 230 VAC charger
- **ZBP-200-CKIT** $3,726
  - Bio Pump Plus with TSI Calibrator

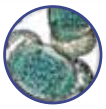
Acessories

- **BIO PUMP REMOTE EXTEN. TUBE** $51
- **FILTER, BIO PUMP BIOISOLATION** $19
- **TRIPOD STAND - HEAVY DUTY** $68

SAMPLING CASSETTES AND MEDIA FOR BIO PUMP

Zefon manufactures a complete Family of IAQ sampling cassettes to meet demanding situations

AIR-O-CELL CASSETTES



Optical microscopy

Air-O-Cell sets the standard for particle capture and optical analysis.

General Features

- The ultimate multipurpose cassette for:
  - Bio aerosols: mould spores, pollen, insect parts, skin cell fragments, asbestos, fibreglass, cellulose, clothing fibres, synthetics, IAQ sampling
  - Inorganic particulate: ceramic, fly ash, copy toner, oil droplets, paints, rust, salts, products of combustion

Options

- **AOC010 - BOX OF 10** $78
- **AOC050 - BOX OF 50** $344

VIA-CELL SAMPLING CASSETTES

Culture and PCR

The Via-Cell® bioaerosol sampling cassette is designed to collect both viable and non-viable bioaerosols, maintain viability of the viable mold spores and prevent growth during transport to the laboratory. Sampling with the Via-Cell® is very similar to its sister product Air-O-Cell®. Simply connect it to any pump calibrated to 15LPM and run your sample. The key to the Via-Cell® is that the media used for collection maintains viability of spores and allows several analysis options including culturing, PCR analysis and microscopy.

Options

- **VIA010 - BOX OF 10** $216

AIR-O-CELL CSI CASSETTES

Optical, SEM & X-Ray analysis

Air-O-Cell CSI brings the advantages and precision of SEM particle analysis with x-ray chemical analysis to indoor air quality investigations.

General Features

- Samples can be tested and re-tested using optical, scanning electron microscopy (SEM) and x-ray analysis in any order without significant particle loss or complex sample preparation
- Applications include indoor air quality, home inspection, floor inspection, stack emissions, allergy testing, clean room monitoring and fibre analysis

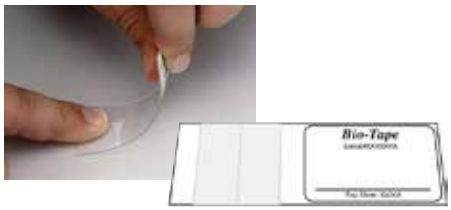
Options

- **CSI010 - BOX OF 10** $154

MOULD & MICROBIAL SAMPLING

OTHER SAMPLING TECHNOLOGIES

BIO-TAPE™



Bio-Tape™ provides a standardized surface sampling method used for the determination of possible microbial, bioaerosol, and inorganic dust contamination. Quickly take a sample and measure the relative degree of contamination. It is especially useful when sampling valuable or non-transportable materials and is very effective on smooth areas.

Bio-Tape consists of a flexible plastic microscope slide with a pre-defined adhesive area. A center-line marker on the slide aids the user in locating the center when taking the sample and also aids the laboratory analyst. Each slide is provided with a unique serial number for traceability and packed in a slide mailer to prevent cross contamination.

Bio-Tape is compatible with both optical microscopy and scanning electron microscopy (SEM). This provides the ability to perform optical and SEM analysis along with an x-ray analysis on the exact same air surface sample and exact same particles.

General Features

- Provides sample consistency
- Individually serialized for traceability
- Prevents cross contamination
- Requires less laboratory prep time
- Eliminates problems of placing tape in a zip bag, or broken glass slides
- Samples may be archived by the laboratory for later review

Options

■ BT0025 SLIDES - 25 IN A BOX	$34
■ BT0050 SLIDES - 50 IN A BOX	$65
■ BT0500 SLIDES - 500 IN A BOX	$528

Using Bio-Tape™ helps provide more consistency in your samples. This is because each sample uses the same amount of adhesive surface area and the provided packaging offers protection during shipment to the laboratory. When the laboratory receives your sample, there will be no guessing where the sample area is and no sticky mess of tape to deal with.

BUCK BIO CULTURE MICROBIAL AIR SAMPLER

$2,281

The Bio-Culture™ air sampler is the smallest, most cost effective and easiest to use sampler available for microbial air sampling. The Bio-Culture™ air sampler features a selectable, continuous, constant sample flowrate and is simple to operate. No tools are required. Its quiet operation allows unobtrusive sampling in a variety of applications. Selecting the appropriate air sampling device is an important step in preserving the quality of your work environment. Think carefully about your workflows and consider all features of a microbial air sampler to ensure you receive a product that delivers what you require without compromising your environment.

General Features

- Flow rate - 30-120LPM (user adjustable)
- Uses standard 90mm petri dishes
- Sampling head design of 380 1mm diameter holes
- Battery powered - runs for 6-8 hours (depending on flow rate, battery maintenance and backpressure)
- Tripod mounting threads on bottom of unit - allows 90 degree sampling
- Sampling head may be sterilized by autoclave or gas torch
- Built-in timers of 1, 2, 5, and 10 minutes
- Optional calibration head allows field calibration of flow rate with a NIST traceable calibrator

Options

■ **BIO-CULTURE CALIBRATION HEAD** $1,400

- NIST traceable venturi calibrator within 1% accuracy that allows users to calibrate the flow of the Bio-Culture pump themselves without having to send the pump out for service or calibration
- Allows flow calibration at flow rates between 30-120LPM
- Designed for use with impeller fan type pumps like the Bio-Culture, which require calibration devices with very little backpressure resistance
- Provided with a certificate of calibration traceable to NIST standards

TEDLAR GAS SAMPLING BAGS

Gas sample bags, usually called Tedlar Bags, are a convenient way to collect gas and vapour samples in air. Many chemical hazards can be effectively collected by sample bags, allowing easy transport to the laboratory for testing. Zefon EconoGrab™ gas sampling bags are excellent quality, low-cost tedlar® gas sampling bags that feature a choice of a single polypropylene fittings or stainless steel fitting.

General Features

- Chemically inert Tedlar® film
- Reusable if purged with nitrogen
- Easy storage and handling

Applications

- Grab sampling
- Indoor air sampling
- Gas blending
- Assessing exposures from leaks and spills
- Leaky underground storage tanks
- Sampling from vents or flues
- Hazardous waste site sampling
- Measuring anesthetic gases in operating rooms
- Stack sampling
- Soil gas sampling
- Calibration gas standards
- Ground water testing

Options

EconoGrab™ Tedlar bags come with a choice of a single polypropylene fittings (suitable for use in most applications) or stainless steel fitting (for use when sampling compounds that are not chemically inert to polypropylene.)

	Polypropylene Fitting	Stainless Steel Valve Fitting
■ 0.5 L	$19	$30
■ 1.0 L	$19	$30
■ 3.0 L	$25	$36
■ 5.0 L	$28	$39
■ 10.0 L	$43	$54
■ 25 L	$78	$89
■ 50 L	$132	$143
■ 100 L	$194	$205

AIR VELOCITY TRANSDUCERS

PRECISION SOLUTIONS FOR REAL-TIME AIR VELOCITY MONITORING

TSI SENSORS

FROM $1,302

The 8455, 8465, and 8475 Air Velocity Transducers are ideal for both temporary and permanent installations for air velocity measurements in research and development labs, manufacturing processes, and other applications. The full–scale range, signal output, and time constant are user selectable and can be easily changed to meet the needs of your application.

General Features

- 0.125 to 50m/s wide velocity range
- +/- 0.5% full scale or 2% of reading accuracy
- 11-30 volts DC or 18-38 volts AC input power
- Fully programmable 0-5v, 0 to 10v, 0 to 20v, 2 to 10v or 4-20mA outputs
- 0.05 to 10 second variable time constant
- 7.5, 15, 22.5 and 30cm long probe options
- 0 to 60°C temperature range
- Easy connection to data loggers/BMS systems
- Full 2 year warranty

Models

■ **TSI 8455**
- Protective window to prevent impact damage

■ **TSI 8465**
- Windowless sensor for higher sensitivity

■ **TSI 8475**
- 0.05 to 2.5m/s velocity range
- +/- 1.0% full scale or 3% of reading accuracy
- Omnidirectional 360° sensor

RELATIVE HUMIDITY AND TEMPERATURE TRANSMITTERS / DATA LOGGERS

HMT120 - HMT130 HUMIDITY AND TEMPERATURE TRANSMITTERS

FROM $437

The Vaisala HUMICAP® Humidity and Temperature Transmitters HMT120 and HMT130 are designed for humidity and temperature monitoring in cleanrooms and are also suitable for demanding HVAC and light industrial applications.

General Features

- Vaisala HUMICAP® technology with humidity sensor HUMICAP® 180R
- Humidity parameter options: relative humidity, dewpoint/frost point, wet bulb temperature, enthalpy, absolute humidity, mixing ratio, vapour pressure, and saturation vapour pressure
- 2-wire loop-powered or 3-wire voltage output configurations
- Interchangeable probe (easy field calibration)
- Accurate and reliable
- Resistant to dust and most chemicals
- Optional LCD display
- USB cable available for a PC connection for maintenance
- Wall-mounted or with a remote probe
- Constant output probe available
- Can be mounted outdoors using a Vaisala installation kit and the Vaisala Radiation Shield DTR504A
- Enclosure IP65
- 3-point NIST traceable calibration (certificate included)

HMW90 SERIES HUMICAP HUMIDITY AND TEMPERATURE TRANSMITTERS

FROM $255

The wall-mounted Vaisala HMW90 Series HUMICAP® Humidity and Temperature Transmitters measure relative humidity and temperature in indoor environments, where high accuracy, stability, and reliable operation are required.

General Features

- Both analog and digital output
- Easy installation, configuration and field adjustment
- Humidity parameter options: relative humidity, dew point, mixing ratio, enthalpy, wet bulb temperature, dew pointed pression, and absolute humidity
  - Full 0 to 100%RH measurement range
  - Up to ±1.7%RH accuracy
  - User exchangeable humidity and temperature module
  - NIST traceable calibration(certificate included)
  - Available in four colours

Options

■ **TEMPERATURE ONLY**	**FROM** $255
■ **HUMIDITY & TEMP.**	**FROM** $400

HMD60Y AND HMD70Y HUMIDITY AND TEMPERATURE TRANSMITTERS

$561

The duct mounted Vaisala HUMICAP® Humidity and Temperature Transmitters HMD60y and HMD70y are designed for monitoring relative humidity and temperature in building energy management systems. The combination of high accuracy, stability and reliable operation, make these products the ideal choice for demanding applications.

General Features

- Full 0 to 100 %RH measurement
- Accuracy up to ±2 %RH
- True two-wire transmitters with 4 to 20 mA loop powered output (HMD60)
- Selectable signal output of 0 to 1 V, 0 to 5 V or 0 to 10 V (HMD70) with optional current module also 0 to 20 mA (HMD70)
- Vaisala HUMICAP® Sensor for excellent accuracy and long-term stability, negligible hysteresis and resistance to dust and most chemicals.
- Temperature compensated
- IP65 (NEMA 4) housing
- Also available as temperature only transmitters HMD 60T/70T
- NIST traceable calibration (certificate included)

Options

■ **TEMPERATURE ONLY**	**FROM** $408
■ **RELATIVE HUM. & TEMP.**	**FROM** $561

RELATIVE HUMIDITY AND TEMPERATURE TRANSMITTERS / DATA LOGGERS

HMDW110 HUMIDITY AND TEMPERATURE TRANSMITTER

FROM $277

Vaisala HUMICAP® Humidity and Temperature Transmitter Series HMDW110 measure relative humidity and temperature in multiple HVAC applications. The series includes transmitters for duct mounting, IP65-classified wall transmitters, and outdoor transmitters with integrated radiation shields.

General Features

- Accurate humidity and temperature transmitters for measurements in HVAC and cleanroom applications
- Outdoor transmitter with professional-grade radiation shield
- Proven HUMICAP® 180R sensor for superior long-term stability
- ±2 %RH accuracy
- 3-point NIST traceable calibration (certificate included)
- On-site calibration with HM70 Hand-Held Meter or PC connection
- Current output (4 to 20 mA)
- Default output parameters are relative humidity and temperature. Dew point temperature, wet bulb temperature, and enthalpy outputs selectable with a PC connection.

HMDW80 SERIES HUMIDITY AND TEMPERATURE TRANSMITTER

FROM $80

Vaisala INTERCAP® Humidity and Temperature Transmitter Humidity and temperature in various building automation applications. Transmitters combine easy installation and reliable operation with a low requirement for maintenance. The versatile HMDW80 series includes transmitters for wall and duct mounting, IP65-classified transmitters for humid areas, and transmitters with a radiation shield for outdoor use. It also includes temperature-only transmitters and transmitters with an optional display.

General Features

- Reliable transmitters for basic HVAC humidity measurements
- ±3.0 %RH accuracy
- Full 0 to 100 %RH measurement mrange
- Optimized for easy installation and low maintenance
- User exchangeable INTERCAP® sensor for easy field replacement
- Output parameters: relative humidity and temperature with optional dew point temperature, wet bulb temperature and enthalpy parameters
- UL- V0 flammability rating
- Typical installation locations - ventilation ducts, walls, wash-down areas, outdoor locations

Options

■ **TEMPERATURE ONLY**	**FROM $80**
■ **RELATIVE HUMIDITY & TEMPERATURE**	**FROM $109**

VAISALA MID-RANGE DATA LOGGERS FOR TEMPERATURE, HUMIDITY & CONTACT CHANNEL MEASUREMENT

FROM $472

Vaisala's Mid-Range data loggers are designed for applications where speed and economy are critical. The MR loggers can be used with Vaisala software to monitor and analyse environmental data and provide presentation-quality records that are easily exported to PDF and spreadsheets.

Connectivity options include USB, wireless, and Power over Ethernet with a vNet PoE network interface. When MR loggers are used with vNet PoE device, installation takes minutes. With the vNet device, loggers are automatically identified on your network by the software.

Vaisala's Mid-Range loggers are designed for applications including:

- Drug Discovery, R&D
- Early Phase Clinical Trials
- Blood & Tissue Banks
- Hospitals & Pharmacies
- Nutraceutical Manufacturing
- Food & Dietary Supplement Applications
- Aerospace
- Semiconductors
- Museums & Archives

General Features

- Interface via RS232, USB, WiFi, Ethernet and vNet PoE
- Sampling rates from 10 seconds to once a day
- Power Source – internal 10-year lithium battery
- Size 85mm x 59mm x 26mm & weighs only 76g
- Mounting via magnetic strips
- Logging capacity 48,000 (DL1000MR) to 122,000 (DL2000MR)
- Require Vaisala software vLog SP to download data

Options

- ■ **DL1000MR - 1 INTERNAL TEMP CHANNEL**
- ■ **DL1016MR - 2 CHANNEL TEMP WITH PROBES**
- ■ **DL1016MRB - 2 CHANNEL WITH 1 TEMP PROBE, AND 1 CONTACT INPUT**
- ■ **DL1416MR - 4 CHANNEL TEMP W/ PROBES**
- ■ **DL1416MRB - 2 CHANNEL TEMP W/ PROBES & 2 CONTACT INPUTS**
- ■ **DL2000MR - 2 INTERNAL CHANNELS TEMP AND RH**

VAISALA VLOG SP: TREND AND ANALYSIS SOFTWARE (SW-SP-USPD)

FROM $550

Vaisala vLog SP is a powerful, easy-to-use software for downloading, analyzing and reporting information from Vaisala SP data loggers. This software is used in standalone data logging applications with Vaisala's non-validatable DL-series data loggers. vLog SP includes graphing and reporting functions that are ideal for use in calibration labs.

General Features

- Quick Visual of Results - Horizontal bars that move automatically with min, max, and avg values. User-selectable color indicators for each value, units, and detailed label creation
- Customizable Reports - Manual or automatic scaling, multiple Y-axes, selectable decimal place precision, temperature unit display options (°C or °F), adjustable International date/time formats, and text area for signatures and detailed annotations. See sample report
- Security Control - Three levels of security to control access: Windows, domain level, and local account authentication
- Time Saving Batch Setup - Quickly apply settings from one logger to others, including start/stop times, sample intervals, logger and channel descriptions, and flags
- Easy Data Transfer - Copy and paste or export graphs, .TXT and .CSV files into other Windows and/or database applications

CO2 TRANSMITTERS

GMW90 SERIES CARBOCAP CARBON DIOXIDE, TEMPERATURE, AND HUMIDITY TRANSMITTER

FROM $444

The Vaisala GMW90 Series CARBOCAP® Carbon Dioxide, Temperature, and Humidity Transmitters are based on new measurement technology for improved reliability and stability. With the new technology, the transmitter's inspection interval is extended to five years. Designed for demand controlled ventilation, these transmitters measure carbon dioxide and temperature, with the option for humidity measurements. The instruments come with a calibration certificate that meets traceability and compliance requirements.

General Features

- Measured parameters: carbon dioxide, temperature, and humidity (optional)
- Superior long-term stability with the next generation Vaisala CARBOCAP® sensor
- Accurate temperature and humidity measurements in a three-parameter instrument due to the low-power microglow infrared source
- Quick and easy installation and maintenance
- Calibrated, user-exchange able modules for carbon dioxide, temperature and humidity
- 3-point traceable CO2 calibration (certification included)
- Both analog and digital communication (BACnet/Modbus)

GMD20 SERIES DUCT MOUNT TRANSMITTER

EASY TO INSTALL
NO MAINTENANCE
5 YEAR RECOMMENDED CALIBRATION INTERVAL

FROM $349

The GMD20 series transmitters can be used independently, or incorporated into building energy management systems. The series consists of duct mount model GMD20/D. Version D has a display. The two sizes in the wall-mount series make them easy to install for most standard junction boxes. The duct units' compact sensor head design requires only a small hole in a ventilation duct, minimizing the risk of leaking gaskets and measurement errors. In addition to the standard 0 to 20 mA, 4 to 20 mA and 0 to 10 V outputs, there are three other options: two LonWorks® interfaces and a relay output. The relay output is standard with the display units.

General Features

- Measurement range 0 to 2000 ppm CO2 (nominal; can be calibrated for other ranges: 0 to 5000 ppm, 0 to 10,000 ppm, 0 to 20,000 ppm)
- Accuracy (including repeatability, non-linearity and calibration uncertainty) ± (2 % of range + 2% of reading)
- Long-term stability <±5 % of range / 5 years
- Response time (63%) 1 minute
- Warm-up time 1 minute, 15 minutes full specifi cations
- Temperature Measurement (Optional With GMW21)
  - Output signal 0 to 10V
  - Corresponding measurement range 0 to +50 °C (+32 to +122 °F)
  - Accuracy at +25 °C ±0.5 °C (0.9 °F)
  - Warm up time 30 min
  - Temperature sensor Semiconductor IC

PRESSURA ROOM PRESSURE MONITORS

TSI PRESSURA™

Monitor and change high & low pressure rooms

TSI PresSura™ Healthcare Room Pressure products help provide safety in isolation rooms, operating rooms, and other specialized spaces, by continually measuring room pressure and indicating room conditions. The PresSura products assist hospitals and engineers to comply with relevant ASHRAE, AIA, CDC and USP standards. TSI's unique thermal-based pressure sensor offers the most precise, accurate, and stable measurement. Over 50,000 hospital rooms in leading healthcare facilities rely on TSI products every day to provide effective 24/7 monitoring.

Safety & Compliance

Whether designing or managing healthcare facilities, you understand that safety, compliance and infection prevention are crucial considerations. PresSura Room Pressure products provide the confidence you need to comply with major industry guidelines and regulations in order to ensure and document safe environments. Specifically designed for hospital applications, PresSura Room Pressure Products offer:

- Best-in-class measurement of low pressures to help monitor critical pressurized rooms
- Simplified compliance with relevant parts of the following guidelines and regulations
- ANSI/ASHRAE/ASHE Standard 170-2008, ventilation of health care facilities
- The Facility Guidelines Institute (FGI), 2010 Guidelines for Design and Construction of Health Care Facilities
- Centers for Disease Control (CDC), Guidelines for Environmental Infection Control in Health Care Facilities
- Seamless integration into Building Automations Systems (BAS) where data can be logged and tracked over long periods of time
- Low maintenance and easy calibration

Through-the-Wall Sensor

Nurses Station Monitor

General Features

- Both monitor and control units available
- Includes room pressure, ventilation and temperature controls
- Supports high accuracy through-the-wall pressure sensor based on thermal anemometry
- Provides best-in-class accuracy, resolution and stability
- Also supports pressure transducer input
- Suitable for Airborne Infection Isolation (AII) rooms and Protective Environment (PE) rooms
- Positive / negative / no Isolation room modes
- Changeable via keyswitch and password protected touchscreen
- Supports visual and audible alarms
- Programmable alarms delays to avoid nuisance alarms and alarm mute feature.
- Standard communication options supported are Modbus & BACnet MS/TP
- LonWorks available as an option
- Accepts flow, door switch, temperature and relative humidity inputs
- Supports 0 – 10v / 4-20mA analogue output and alarm relay contacts
- TSI Nurses Station Monitor can display status of up to 8 rooms on 1 screen

Options

Monitors – Single room

■ **RPM10** $1,667
- PresSura Standard Room Pressure Monitor with Through-the-Wall Sensor

■ **RPM10-PT** $1,282
- PresSura Standard Room Pressure Monitor for use with Pressure Transducer Sensor (not incl.)

Monitors – Multiple rooms (Up to 3)

■ **RMP20** $1,950
- PresSura Premium Room Pressure Monitor with Through-the-Wall Sensor

■ **RPM20-LON** $2,232
- PresSura Premium Room Pressure Monitor with LONworks Communications and Through-the-Wall Sensor

■ **RPM20-PT** $1,557
- PresSura Premium Room Pressure Monitor for use with Pressure Transducer (not included)

■ **RPM20-PT-LON** $1,847
- PresSura Premium Room Pressure Monitor with LONworks Communications for use with Pressure Transducer (not included)

Controllers

■ **RPC30** $2,370
- PresSura Premium Room Pressure Controller with Through-The-Wall Sensor

■ **RPC30-LON** $2,653
- PresSura Premium Room Pressure Controller with LONworks Communications and Through-the-Wall Sensor

■ **RPC30-PT** $1,984
- PresSura Premium Room Pressure Controller for use with Pressure Transducer (not included)

■ **RPC30-PT-LON** $2,260
- PresSura Premium Room Pressure Controller with LONworks Communications. For use with Pressure Transducer (not included)

Pressure Transducers

■ **TSI 801916 PRESSURE TRANSDUCER** $721
- +- 0.1 in H2O (+/- 24.9Pa)

■ **TSI 801917 PRESSURE TRANSDUCER** $721
- +- 0.25 in H2O (+/- 62.3 Pa)

Nurses Station Monitor

■ **NSD8 – NURSES STATION MONITOR** $2,859

Other options available include keyswitches, door switch and remote visual alarms.

REFRIGERANT TRANSMITTERS

CHOOSE YOUR SENSOR FOR YOUR TRANSMITTER - CALL KENELEC FOR ASSISTANCE

Ensure that all required products are included to make a complete system e.g:

- LPT and LPT-A transmitters work with PDC Controllers
- PET transmitters work with BACnet control devices

✓ Available / Unavailable	GEM-II Multi-Purpose Gas Detector	PET BACnet® Transmitter	ART Infrared Refrigerant Transmitter	LPT-A Analogue Low Power Transmitter
Solid State / Semi-Conductor Sensor	0-2000ppm		0-1032ppm	0-2000ppm
Refrigerant (R22)	✓	✓	✓	✓
Refrigerant (R123)			✓	
Refrigerant (R134A)	✓	✓	✓	✓
Refrigerant (R402A)	✓	✓		✓
Refrigerant (R404A)	✓	✓	✓	✓
Refrigerant (R407C)	✓	✓	✓	✓
Refrigerant (R410A)	✓	✓	✓	✓
Refrigerant (R422A)	✓	✓		
Refrigerant (R422D)	✓	✓		✓
Refrigerant (R507A)	✓	✓	✓	✓
Refrigerant (R407F)			✓	
Refrigerant (R422D)			✓	
Refrigerant (R427A)			✓	
Refrigerant (HFO1234YF)			✓	
Refrigerant (HFO1234ZE)			✓	

GAS DETECTION CONTROLLERS - CONNECT THE SENSOR YOU NEED

PDC MULTI-CHANNEL CONTROLLER

Discontinued from Dec 2015

FROM $2,260

General Features

- For up to 8 analog transmitters and up to 120 digital transmitters.
- Eight 5-amp SPDT relays
- Optional BACnet® output module
- Audible & visual alarms
- LCD Display
- Optional Watertight enclosure

GEM-II ANALOG MULTI-PURPOSE REFRIGERANT TRANSMITTER

INCORPORATES "SMART" SENSOR TECHNOLOGY

Discontinued from Dec 2015

FROM $1,320

General Features

- Single or dual channel
- Two 5-amp SPDT relays
- Integral plug-and-play "smart" sensors or remote sensors
- 4-20mA linear output signal
- LED light indicators
- Optional Water tight enclosure

PET BACNET DIGITAL REFRIGERANT TRANSMITTER

INTEGRATE TO YOUR BUILDING MANAGEMENT SYSTEM

FROM $937

General Features

- Digital transmitter
- Single or dual gas sensor
- Includes temperature sensor
- Tri-color LED light indicator
- Communicates via BACnet protocol MS/TP
- Thermal resetting fuse

LPT-A LOW POWER REFRIGERANT TRANSMITTER WITH LCD

LOW POWER, LOW COST WIDE RANGE OF GAS SENSORS

FROM $931

General Features

- Analog transmitter
- Single Sensor; supports a wide range of sensors including electro-chemical, solid state and catalytic (refer to table)
- Linear 4-20mA or 0-10 volt output signal
- Graphic LCD display (user selectable function)
- 1 dry contact relay, 30 volt 2 amp maximum
- Standard water/dust tight, corrosion enclosure (drip proof), IP54 Certified
- Audible alarm
- Automated calibration procedure
- Optional splash guard, heater, and logger

ART INFRARED REFRIGERANT TRANSMITTER

CHILLER ROOM OR FREEZER OPTION

FROM $3,630

General Features

- Use accurate infrared sensors
- Detect a wide range of refrigerants
- Audible & visible alarms
- Standalone or connect to BMS

INDUSTRIAL GAS TRANSMITTERS

CHOOSE YOUR SENSOR FOR YOUR TRANSMITTER - CALL KENELEC FOR ASSISTANCE

Ensure that all required products are included to make a complete system e.g:

- LPT and LPT-A transmitters work with PDC Controllers
- DST transmitters work only with PDC controllers
- PET transmitters work with BACnet control devices

✓ **Available**

Unavailable

Sensors	GEM-II Multi-Purpose Gas Detector	GEM MRI Oxygen (O_2) Sampling System	PET BACnet® Transmitter	AST-I Industrial Analog Transmitter	AST-IS Carbon Dioxide (CO_2) Transmitter	LPT Low Power Transmitter	LPT-A Analogue Low Power Transmitter	DST Digital Transmitter
Ammonia (NH_3)			✓				✓	✓
Carbon monoxide (CO)	✓		✓			✓	✓	✓
Carbon Dioxide (CO_2)				✓	✓			
Chlorine (Cl_2)							✓	
Ethylene (C_2H_4)			✓				✓	
Ethylene oxide (C_2H_4O)							✓	
Formaldehyde (CH_2O)			✓				✓	
Hydrogen (H_2)			✓				✓	✓
Hydrogen sulphide (H_2S)							✓	
Hydrogen chloride (HCl)							✓	
Hydrogen cyanide (HCN)							✓	
Methane (CH_4)				✓				
Nitrogen dioxide (NO_2)	✓		✓			✓	✓	✓
Nitric oxide (NO)	✓		✓				✓	✓
Oxygen (O_2)	✓	✓	✓				✓	✓
Ozone (O_3)							✓	
Phosphine (PH_3)							✓	
Silane (SiH_4)							✓	
Sulphur dioxide (SO_2)	✓		✓				✓	
Combustibles	✓		✓				✓	✓
Hydrogen (H_2)	✓		✓				✓	✓
Methane (CH_4)	✓		✓				✓	✓
Propane (C_3H_8)	✓		✓				✓	✓
TVOC's	✓		✓				✓	✓
Nitrous Oxide (N_2O)				✓				

GAS DETECTION CONTROLLERS - CONNECT THE SENSOR YOU NEED

PDC MULTI-CHANNEL CONTROLLER

Discontinued from Dec 2015

FROM $2,260

General Features

- For up to 8 analog transmitters and up to 120 digital transmitters.
- Up to 32 channels on base controller, expandable to 128 channels
- RS485 communication with digital transmitters
- Eight 5-amp SPDT relays
- Optional analog inputs (up to eight)
- Optional BACnet® output module
- Audible & visual alarms
- LCD Display
- Optional Watertight enclosure

DST DIGITAL TRANSMITTER

FROM $734

General Features

- Detects a wide range of gases, including solid state and electrochemical
- Designed for use with the PDC controller
- RS485 digital output signal
- RoHS compliant circuit boards
- Configured for four wire multidrop wiring
- Thermal resetting fuse
- LED indication for Power, Fail and Alarm

GEM-II ANALOG MULTI PURPOSE TRANSMITTER

Discontinued from Dec 2015

FROM $1,065

General Features

- Single or dual channel
- Two 5-amp SPDT relays
- Integral plug-and-play "smart" sensors or remote sensors
- 4-20mA linear output signal
- Analog Transmitter
- CSA, UL & C-Tick certification
- LED light indicators
- Optional 4 digit display
- Optional Water tight enclosure

GEM MRI OXYGEN SAMPLING TRANSMITTER

Discontinued from Dec 2015

$5,038

GEM-MRI is a self-contained oxygen (O2) monitoring system developed for Magnetic Resonance Imaging (MRI) room applications for hospitals and clinics.

General Features

- Sample draw pump
- Two 5-amp SPDT relay
- Dry contact relays for control of remote devices
- Analog output (4-20mA)
- Audible alarm
- Adjustable flow meter

LPT-A LOW POWER TRANSMITTER WITH LCD

LOW POWER, LOW COST WIDE RANGE OF GAS SENSORS

FROM $867

General Features

- Analog transmitter
- Single Sensor; supports a wide range of sensors including electro-chemical, solid state and catalytic (refer to table)
- 3-wire VDC or 4-wire VAC power
- 24 volt DC or AC power (nominal)
- Linear 4-20mA or 0-10 volt output signal
- Graphic LCD display (user selectable function)
- 1 dry contact relay, 30 volt 2 amp maximum
- Standard water/dust tight, corrosion enclosure (drip proof)
- Audible alarm
- Automated calibration procedure
- Optional splash guard, heater, and logger

PET BACNET DIGITAL TRANSMITTER

INTEGRATE TO YOUR BUILDING MANAGEMENT SYSTEM

FROM $731

General Features

- Digital transmitter
- Single or dual gas sensor
- Includes temperature sensor
- Tri-color LED light indicator
- Communicates via BACnet protocol MS/TP.
- Thermal resetting fuse

LPT LOW POWER TRANSMITTER

LOW POWER, LOW COST – GREAT FOR BULK PURCHASES!

General Features

- Analog transmitter
- Single sensor: carbon monoxide (CO) 0-200 PPM or nitrogen dioxide (NO2) 0-10 PPM
- Linear 4-20 mA output
- 2-wire loop, 3-wire VDC or 4-wire VAC power
- Automated calibration
- Easy installation

FROM $774

AST-I INDUSTRIAL ANALOG TRANSMITTER

INFRARED GAS DETECTORS

General Features

- Dual temperature compensated pyroelectric infrared detectors
- Lower power consumption
- Target gases include CO2 (0-5, 0-20,0-100%) and Methane CH4 (0-100% of volume or 0-100% LEL)
- Water/dust tight/corrosion resistant polycarbonate enclosure
- Linear 4-20mA output
- Measurement ranges from 0-1000 PPM

$3,358

AST-IS STANDARD CO_2 TRANSMITTER

AESTHETIC HOUSING FOR OFFICE & RESIDENTIAL USE.

General Features

- Attractive PVC enclosures ideal for indoor use eg, residential, schools & offices
- Linear 4-20mA or 0-10VDC output
- Single internal infrared CO2 sensor, 0 - 2,000 ppm
- Optional LCD Display
- Optional temperature display
- Optional audible alarm
- Optional relay
- Maintenance free, lifetime calibration

FROM $739

AST-IS INDUSTRIAL CO_2 TRANSMITTER

INFRARED CO2 DETECTOR

General Features

- Duct Mount option in IP54 enclosure, Wall Mount option in IP65 enclosure
- Linear 4-20mA or 0-10VDC output
- Single internal infrared CO2 sensor, 0 - 2,000 ppm OR 0-4%
- Optional LCD Display
- Optional relay
- Maintenance free, lifetime calibration

FROM $917

MASS FLOW METERS (AIR & GAS)

MASS FLOW METERS

The TSI Mass Flowmeters can be used for a multitude of gas flow measurement applications. Whether measuring gas flows in a laboratory or manufacturing setting, TSI general purpose mass flowmeters provide accurate results with multiple data output options. The display versions come complete with accessories making setup and operation fast and convenient.

The TSI mass flowmeters are specified as two percent of flow rate reading. One TSI mass flow meter covers the same range as three percent (or more) of full scale devices, with better accuracy at most points. Fast four millisecond response ensures accuracy in fluctuating flows. This fast response time of the TSI mass flowmeter is ideal for closed-loop control systems and integrated volume measurements. Low pressure drop of the TSI mass flowmeter minimizes flow circuit back pressure and its impact on the system.

General Features

- TSI 4140 Low Flow series (0.01 – 20 std L/Min)
- TSI 4040 High Flow series (0 – 200 & 0 – 300 std L/Min)
- 4 millisecond flow response
- High accuracy ±2% of reading
- High turndown ratio
- Low pressure drop
- Versions available with or without display
- Convenient 0 – 10V DC analog output of flow rate
- Versatile RS232 digital output of flow rate, volume, pressure, temperature
- Built-in temperature and pressure compensation
- NIST-traceable calibration certificate included at no additional cost

TSI LOW FLOW - 4140 SERIES

FROM $1,201

TSI HIGH FLOW - 4040 SERIES

FROM $1,295

		Low Flow – 4140 Series				High Flow – 4040 Series		
Model		4140	41403	4143	41433	4040	4043	4045
Gas Calibration		Air, O_2, N_2	Air, O_2, N_2, N_2O	Air, O_2, N_2	Air, O_2, N_2, N_2O	Air, O_2, N_2, Air/O_2 Mixture		
Inlet/Outlet Diameter		0.25” (6.4 mm)		0.375” (9.53 mm)		22 mm ISO tapered	0.50” (12.7 mm)	0.75” (19.1 mm)
Flow Measurement	Range	0.01-20 Std L/min				0-300 Std L/min	0-200 Std L/min	0-300 Std L/min
	Accuracy — Air and O^2	±2% of reading or 0.005 Std L/min, whichever is greater				±2% of reading or 0.05 Std L/min, whichever is greater		
	Accuracy — N^2	±3% of reading or 0.010 Std L/min, whichever is greater				±3% of reading or 0.1 Std L/min, whichever is greater		
	Accuracy — Air and O^2 mixture	N/A				±3% of reading or 0.1 Std L/min, whichever is greater		
	Accuracy — N^2O	N/A	±3% of reading or 0.010 Std L/min, whichever is greater	N/A	±3% of reading or 0.010 Std L/min, whichever is greater	N/A		
	Response	4 ms to 63% of full scale flow				4 ms to 63% of full scale flow		
LCD Display Units		L/min, Std L/min, cm3/min, Std cm3/min				L/min, Std L/min		
Overall Dimensions		5” x 2” x 1.25” (127 mm x 49 mm x 32 mm)				7.2” x 2.5” x 2.1” (182 x 63 x 53 mm)		
Volume* Measurement	Range	0.01 – 99.9 liters				0.01 – 99.9 liters		
	Accuracy	±2% of reading (see Operator’s Manual for additional details)				±2% of reading (see Operator’s Manual for additional details)		
Pressure Measurement	Range	50-199 kPa absolute				50-199 kPa absolute		
	Accuracy	±1 kPa				±1 kPa		
	Response	<4 ms to 63% of final value for step charge				<4 ms to 63% of final value for step charge		
Temperature Measurement	Range	0-50°C				0-50°C		
	Accuracy	±1°C at flow greater than 1 Std L/min				±1°C at flow greater than 1 Std L/min		
	Response	<75 ms to 63% of final value for step change				<75 ms to 63% of final value for step change		
Outputs	Analog	0-10 VDC flow only, zero and span adjustable via RS232				0-10 VDC flow only, zero and span adjustable via RS232		
	Digital	RS232				RS232		
DC Power Input		7.5 VDC ±1.5 V, 300 mA max				7.5 VDC ±1.5 V, 300 mA max		

TSI LOW FLOW - 4120 SERIES - NO DISPLAY

FROM $520

TSI HIGH FLOW - 4020 SERIES - NO DISPLAY

FROM $546

		Low Flow – 4120 Series						High Flow – 4020 Series				
Model		4121 Series			4122 Series			4021 Series		4024 Series		
		4121	41212	41216	41221	41222	41226	40211	40212	40241	40242	40246
Gas Calibration		Air	0_2	N_2	Air	O_2	N_2	Air	O_2	Air	O_2	N_2
Inlet/Outlet Diameter		0.25" (6.4 mm)			0.375" (9.53 mm)			22 mm ISO tapered		0.75" (19.1 mm)		
Flow Measurement	Range	0.01-20 Std L/min						0-300 Std L/min				
	Accuracy — Air and O2	±2% of reading or 0.005 Std L/min, whichever is greater						±2% of reading or 0.05 Std L/min, whichever is greater				
	Accuracy — N2	±3% of reading or 0.010 Std L/min, whichever is greater						±3% of reading or 0.1 Std L/min, whichever is greater				
	Response	4 ms to 63% of full scale flow						4 ms to 63% of full scale flow				
Overall Dimensions		5" x 2" x 1.1" (127 mm x 49 mm x 29 mm)						7.2" x 2.5" x 1.5" (182 x 63 x 38 mm)				
Pressure Measurement		N/A						N/A				
Temperature Measurement	Range	0-50°C						0-50°C				
	Accuracy	±1°C at flow greater than 1 Std L/min						±1°C at flow greater than 1 Std L/min				
	Response	<75 ms to 63% of final value for step change						<75 ms to 63% of final value for step change				
Outputs	Analog	0-4 VDC flow only, zero and span adjustable via RS232						0-4 VDC flow only, zero and span adjustable via RS232				
	Digital	RS232						RS232				
DC Power Input (User Supplied)		5.0 VDC ±0.25 V, 300 mA max						5.0 VDC ±0.25 V, 300 mA max				
Recommended Filtration		HEPA-grade						HEPA-grade				

PRIMARY CALIBRATORS

TSI offers two Primary Calibrator Models for calibrating pumps and any other air sampling instruments that draw an active air sample. These small, portable, battery-operated units are lightweight and easy to use. Volumetric flow rate is displayed continuously, making real-time pump adjustment, calibration and periodic flow checks fast and easy. These Primary Calibrators are temperature-compensated and pressure-corrected to calculate volumetric flow rate at an accuracy within 2% of reading.

General Features:

- Provides continuous real-time volumetric flow rate readings, so pump adjustment and calibration is fast and easy
- Battery powered, compact and lightweight
- Field portable—use the same primary calibrator for adjustment, calibration and periodic checks
- Comes with a NIST traceable calibration certificate
- Kits come complete and are ready to use
- Model 4146 flow measurement range of 0.01 to 20 lpm
- Model 4140 flow measurement range 2.5 to 300 lpm
- Each Primary Calibrator Model Includes: Flowmeter, soft carrying case, battery pack, (6) AA Alkaline batteries, connectors, tubing, dampening chamber module (4146 only), battery pack lugs, 2-year warranty, user guide and NIST certificate of calibration

TSI 4046 PRIMARY CALIBRATOR KIT RANGE – 2.5 TO 300 LPM

$2,091

TSI 4146 PRIMARY CALIBRATOR KIT RANGE – 0.01 TO 20 LPM

$1,717

Meet TEAM KENELEC:

"Sharing our knowledge and experience to find innovative solutions for your business."

"Our goal at Kenelec Scientific is to have service that is not just great but legendary."

"We tailor complete solutions according to your business needs and preferences, employing the best technologies – Solving today's concern with tomorrow's technology."

"Our focus is to deliver support services that 'measure up' beyond your expectations."

kenelec scientific
measuring up

ADDITIONAL SOLUTIONS

LABORATORY TESTING & VALIDATION NEEDS

- Wide range of laboratory testing
- Validation services for pharmaceutical / cleanroom industry

CALIBRATION NEEDS

- NATA Certification for some products / National Measurement Institute of Australia traceable calibration
- Local calibration - cost effective and quick turnaround
- World class calibration lab
- Experienced, fully qualified, factory trained specialists

EXTENDED WARRANTY PROGRAM NEEDS

- Warranty extension on top of the already generous manufacturer's warranty
- Competitive rates

SERVICE & REPAIR NEEDS

- Local after sales service and support
- Quick turnaround
- Competitive rates
- Backed by warranty

PROFESSIONAL EDUCATION & TRAINING NEEDS

- Wide range of courses - enquire with us
- In-house, onsite and online training available
- Certification provided

RENTAL NEEDS

- Latest models at competitive rates
- Short and long term available
- Try before buying
- All units calibrated and fully maintained

VISA, MASTERCARD, AMEX Accepted

Please note: the prices in this catalogue are provided as a guide only and are subject to change without notice.
Please check at time of purchase. Delivery cost and GST are not included. (4% +GST surcharge on AMEX)

765 / HVAC / 14415 / JUL15

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